

**Information and Library Network Centre**

An IUC of University Grants Commission



# Annual Report

April 1, 2009 to March 31, 2010

**UGC-INFONET 2.0: A Network of Indian Universities**

**Software for University Libraries**

**Open Journals System @ INFLIBNET Centre**

**IndCat: Online Union Catalogue of Indian Universities**

**National Library and Information Services Infrastructure for Scholarly Content**

**Shodhganga: A Reservoir of Indian Theses**

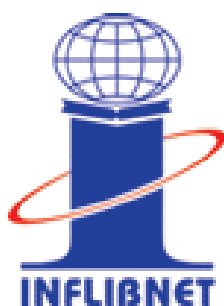
**Shibboleth-based Access Management System**

**UGC-INFONET Digital Library Consortium**

**INFLIBNET Centre**

# **Annual Report**

**(April 1, 2009 – March 31, 2010)**



**Information and Library Network Centre**

Ahmedabad

2010

## The Director's Desk



I am pleased to present the Annual Report of the INFLIBNET Centre for the Financial Year 2009-2010. The annual report provides us an opportunity to reflect upon our accomplishments and shortcomings in our programmes and projects during the year. The report details an incredibly busy year for the Centre as our existing programmes were rejuvenated and new projects were launched. After months of preparation and research, we embarked on a number of flagship projects that are beginning to show their credibility and acceptability amongst higher education institutions in India.

The Centre has been concentrating on a number of major programmes since past few years including i) Library automation in universities and colleges including development and implementation of an integrated library automation software, i.e. SOUL; ii) compilation of union catalogues of library resources to promote resource sharing among universities; iii) provide Internet connectivity to universities; and iv) provide access to subscribed e-resources to universities through UGC-Infonet Digital Library Consortium. The Centre has successfully enhanced and reactivated all its existing programmes in the areas of activities listed above. SOUL 2.0, launched in January 2009, was received well by the LIS community. While 543 copies of SOUL 2.0 were given free-of-cost to the existing users as a gesture of goodwill, 252 copies were purchased by the new customers. As such, total number of SOUL users have grown to more than 2016 by the end of March 2010. New resources were added and made accessible to the existing universities and benefit of access to e-resources were given to the new universities (including new central universities) under the UGC-INFONET Digital Library Consortium. Internet bandwidth given to universities was enhanced from 2 Mbps to 10 Mbps with switching over of ISP from ERNET to BSNL. The Centre is actively working with NKN for switching over all the universities to NKN Network that would provide 1Gbps internet connectivity to all the universities in the country. Once all universities migrate to NKN for their Internet connectivity, the UGC Infonet Connectivity programme would either subsumed into NKN or a new format will be given to the programme for helping the university to make optimal use of enhanced Internet bandwidth available to them through NKN. New and enhanced version of interface for the union catalogue of library resources, i.e. IndCat was released and additional bibliographic records were added to the union catalogue from existing universities as well as from universities that did not participate in the programme before. (GujCat and NerCat)

The Centre has launched a number of new initiatives after years of preparation and planning. The project called N-LIST was launched on trial basis in February 2010 with financial assistance from the MHRD under its National Mission on Education through ICT. The N-LIST programme envisages extending electronic access to more than 2,100 e-journals and 51,000 e-books to 6,000 colleges covered under 12(B) and 2(F) Section of the

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UGC Act. More than 600 eligible colleges have registered themselves with the programme till the end of March 2010. These colleges are availing the benefit of access to resources made available under the N-LIST programme. The N-LIST Programme was formally launched by Hon'ble Union Minister for Human Resource Development, Shri Kapil Sibal on May 4, 2010.

The new dimensions that were added to the current activities of the Centre include content creation and content capturing and content hosting through project on submission of electronic version of theses and dissertations. Under the project rechristened as "Shodhganga", a digital repository was set up at the INFLIBNET Centre that provides for submission of electronic version of theses and dissertations by students and research scholars in universities in India for making them available in open access to the world-wide academic community. The repository was set-up in response to the UGC Notification (Minimum Standards & Procedure for Award of M.Phil / Ph.D Degree, Regulation, 2009) wherein the responsibility of maintaining the digital repository of electronic theses and dissertations (ETD) is assigned to the INFLIBNET Centre. The Shodhganga project, launched on January 27, 2010 by Prof. S.K. Thorat, Chairman, UGC, was well-received by the academic community. The Centre has signed MoU with a number of universities and the process of populating the digital repository with ETDs from various universities in India is going on. Students from different universities have started submitting electronic version of their theses to the repository on voluntary basis. The total number of theses has grown to more than 600 including 550 theses from Mahatma Gandhi University, Kottayam (Kerala), the first university to sign MoU with the INFLIBNET Centre.

The Open Journal System (OJS) at INFLIBNET Centre is another important initiative that encourages open access to scholarly content from universities in India. The OJS at INFLIBNET Centre, launched on January 27, 2010 by Prof. S K Khanna, Chairman, Governing Board, INFLIBNET Centre, facilitates hosting of electronic version of journals into open access mode with all process of submission, peer-reviewing, editing, layout designing and publishing built into it. This initiative encourages universities and institutions that are publishing journals in print format, use the OJS@INFLIBNET for hosting electronic version of their journals, free-of-cost on servers at INFLIBNET Centre. The OJS@INFLIBNET hosts two journals namely; "Journal of Literature Culture and Media Studies" and "Assam University Journal of Science & Technology". Yet another content generation and capturing activity include institutional repository at INFLIBNET Centre which was given a new interface and all papers published in the proceedings of the CALIBERs and PLANNERS were uploaded into the IR at INFLIBNET Centre. The total number of records in IR at INFLIBNET Centre is grown to 2340 articles.

The Centre has set-up a Bibliometric Unit at the INFLIBNET Centre with an aim to measure research output from universities in terms of research publications and its impact using tools and techniques of bibliometrics and citation analysis. The unit has just started working in this area and paper produced by the unit are being sent for publication to reputed research journals as well as to conferences for presentation.



As reported earlier, the Centre has signed an MoU with Google Incorporation for sharing its bibliographic records on books with Google. This activity involved transferring of bibliographic records to Google in MARCXML format. Conversion of CCF based bibliographic records into MARCXML format gave us an opportunity to experiment with Lucene search engine as interface for our union catalogue. The new interface has since been developed with combined use of Lucene search engine and SOLR. The new interface is much faster and retrieved records are displayed in clustered way into major and minor discipline. The union catalogue will soon be released using the new interface some time during the next financial year.

Content creation, capturing, hosting and offering them through digital library interfaces also necessitates its controlled access to authorised user community. The Centre is working towards deploying access management tools for enabling users to access e-resources from their campuses, home and even while travelling. The Centre is working towards deployment of Shibboleth based access management system for providing off-campus access to e-resources to universities.

Lastly, I would like to touch upon the new physical facility that the Centre is building for providing a permanent address to the Centre, its activities and services. The Centre has started constructing its Institutional Building in 10,000 Sq. Mtrs. land allotted to the Centre by Government of Gujarat, free-of-cost. The land is located in Infocity, Gandhinagar amidst reputed educational institutions such as NID, DAIICT and NIFT. The Centre has hired the services of M/s Vaastu Shilpa Consultants as its Architects for designing and constructing the building, M/s Katira Construction, Civil contractor for constructing the building and M/s Anandjiwala Consultants, project management consultants for quality control and for supervising the construction activity. The construction activity of the Institutional building was started soon after Bhoomi Puja on October 27, 2009. The foundation stone for the building was laid by the Hon'ble Chairman, UGC and President, INFLIBNET-Council Prof. Sukhadeo Thorat on January 27, 2010. The construction activity is going on smoothly as per schedule.

I am sure, the user community in institutions of higher learning would enjoy going through the report and take note of our accomplishments and value-added services during the year under review.

Date: 29.11.2010  
Place: Ahmedabad

  
(Jagdish Arora)

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## 1. Introduction

The Information and Library Network (INFLIBNET) Centre is an autonomous Inter-University Centre (IUC) of the University Grants Commission (UGC) located at the Gujarat University Campus, Ahmedabad. Major activities and services of the Centre are geared towards modernization of academic libraries and information centres, to promote information transfer and access, to support scholarship, learning and academic pursuits. The Centre acts as a nodal agency for networking of libraries and information centres in universities, institutions of higher learning and R & D institutions in India. The Centre was established as an independent autonomous Inter-University Centre of the UGC in May 1996 and set out to be a major player for promoting scholarly communication among academicians and researchers across the country.

The technology being a driving force in the contemporary education system, the Centre, on behalf of the UGC, has taken-up a number of initiatives for the benefit of the academic community. These initiatives include i) UGC-Infonet Connectivity Programme that provides for networking of university campuses and Internet connectivity; ii) UGC-Infonet Digital Library Consortium that extends access to selected scholarly electronic journals and databases to the universities in different disciplines; iii) Shodhganga: A Reservoir of Indian Electronic Theses and Dissertations, that enables online submission of theses and dissertations by research scholars in digital repository set-up at the INFLIBNET Centre; iv) Open Journals System @ INFLIBNET that facilitates faculty and researchers in Indian universities to launch their open access journals using INFLIBNET hosting facilities; and v) Access management technologies that facilitate users to access e-resources irrespective of their physical location. Besides, the Centre has recently launched a project entitled “National Library and Information Services Infrastructure for Scholarly Content” (N-LIST) that provides access to electronic journals and electronic books to eligible colleges.

## 2. Mission and Vision

- ❖ Leveraging on the latest technology, create a virtual network of people and resources in academic institutions with an aim to provide effective and efficient access to knowledge through perseverance, innovation and collaboration;
- ❖ Provide seamless, reliable and ubiquitous access to scholarly, peer-reviewed electronic resources to the academic community in all educational institutions with a focus on services and tools, processes and practices that support its effective use and increase value of this information;
- ❖ Build and strengthen ICT infrastructure in educational institutions with value-added services;
- ❖ Develop tools, techniques and procedures for secure and convenient access management enabling users to access information in electronic format from anywhere, anytime;

- ❖ Develop resource selection guides and online tutorials for effective delivery and usage of e-resources;
- ❖ Facilitate creation of open access digital repositories in every educational institution for hosting educational and research contents created by these institutions.

### **3. Aims and Objectives**

The objectives of the Centre, as per the Memorandum of Association (MoA), are as follows:

- a) to promote and establish communication facilities to improve capability in information transfer and access that provide support to scholarship, learning, research and academic pursuits through cooperation and involvement of concerned agencies;
- b) to establish information and library network - a computer communication network for linking libraries and information centres in universities, deemed to be universities, colleges, UGC information centres, institutions of national importance and R&D institutions, etc. avoiding duplication of efforts;
  - i) to promote and implement computerization of operations and services in the libraries and information centres of the country, following uniform standards;
  - ii) to evolve standards and uniform guidelines in techniques, methods, procedures, computer hardware and software, services and promote their adoption in actual practice by all libraries, in order to facilitate pooling, sharing and exchange of information towards optimal use of resources and facilities;
  - iii) to evolve a national network interconnecting various libraries and information centres in the country and to improve capability in information handling and services;
  - iv) to provide reliable access to document collection of libraries by creating on-line union catalogue of serials, theses / dissertations, books, monographs and non-book materials (manuscripts, audio-visuals, computer data, multimedia, etc.) in various libraries in India;
  - v) to provide access to bibliographic information sources with citations, abstracts, etc. through indigenously created databases of the Sectoral Information Centres of NISSAT, UGC Information Centres, City Networks and such others and by establishing gateways for on-line accessing of national and international databases held by the national and international information networks and centres, respectively;



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- vi)** to develop new methods and techniques for archiving of valuable information available as manuscripts and information documents in different Indian languages, in the form of digital images using high density storage media;
  - vii)** to optimize information resource utilization through shared cataloguing, inter-library loan service, catalogue production, collection development and thus avoiding duplication in acquisition to the extent possible;
  - viii)** to enable the users dispersed all over the country, irrespective of location and distance, to have access to information regarding serials, theses/dissertation, books, monographic and non-book materials by locating the sources wherever available and to obtain it through the facilities of the INFLIBNET and union catalogues of documents;
  - ix)** to create databases of projects, institutions, specialists, etc. for providing online information services;
  - x)** to encourage co-operation among libraries, documentation centres and information centres in the country, so that the resources can be pooled for the benefit of helping the weaker resource centres by stronger ones; and
  - xi)** to train and develop human resources in the field of computerized library operations and networking to establish, manage and sustain INFLIBNET;
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- c)** to facilitate academic communication amongst scientists, engineers, social scientists, academicians, faculty, researchers and students through electronic mail, file transfer, computer/audio/video conferencing, etc;
  - d)** to undertake system design and studies in the field of communications, computer networking, information handling and data management;
  - e)** to establish appropriate control and monitoring system for the communication network and organize maintenance;
  - f)** to collaborate with institutions, libraries, information centres and other organizations in India and abroad in the field relevant to the objectives of the Centre;
  - g)** to promote R&D and develop necessary facilities and to create technical positions for realizing the objectives of the Centre;

- h) to generate revenue by providing consultancies and information services; and
- i) to do all other such things as may be necessary, incidental or conducive to the attainment of all or any of the above mentioned objectives.

#### 4. Physical Infrastructure

The INFLIBNET Centre is located in the Gujarat University Campus since its inception. Three buildings of residential blocks of the Gujarat University are hired on lease for accommodating INFLIBNET offices and laboratories.

The Centre has started constructing its own Institutional Building on land measuring 10,000 sq. mtrs (approx. 2.5 acres) allotted to the Centre by the Govt. of Gujarat free-of-cost. The land is located in the Infocity, Gandhinagar amidst reputed educational institutions such as NID, DAIICT and NIFT. The Centre has hired services of M/s Vaastu Shilpa Consultants as its Architect for designing and constructing the building; M/s. Katira Construction, civil contractor for constructing the building and M/s. Ananjiwala Consultants, Project Management Consultants for quality control and for supervising the construction activity.

The construction of the Institutional building was started soon after the Bhoomi Pooja on 27<sup>th</sup> October 2009. The Foundation Stone for the Building was laid by Hon'ble Chairman, UGC and President, INFLIBNET Council Prof. Sukhadeo Thorat on 27<sup>th</sup> January 2010. Prof. S K Khanna, Chairman, Governing Board, INFLIBNET Centre, Dr Jagdish Arora, Director, INFLIBNET Centre, Dr. Parimal Trivedi, Vice Chancellor, Gujarat University, Prof. Sudarshan Iyenger, Vice Chancellor, Gujarat Vidhyapith, Prof. R.K. Kale, Vice Chancellor, Central University of Gujarat and Dr. B.V. Doshi, Chief Architect, Vaastu Shilpa were also present on the occasion.



Fig. 1: The Model of INFLIBNET's Institutional Building at INFOCITY, Gandhinagar

The building of the Centre is designed by internationally acclaimed architect and renowned academician Dr Balkrishna V Doshi of Vaastu-Shilpa in consultation with other experts in the field of sustainable, eco-friendly and energy-efficient building. The project is being executed on a turn-key basis from concept to completion within a period of two years. In the first phase, total built-up area of 1,20,000 sq. ft. is being completed which would include Academic and Research Blocks, Administration, Library, Auditorium and Lecture Halls at a cost of around Rs. 22 Crores. In the second phase, 65,000 sq. ft. built-up area will be undertaken with an estimated cost of Rs. 7.84 Crores which would include Hostels, Guest House, Staff Quarters, Director's Pent House, etc.

Progress made in the construction of the building is being reviewed in the weekly meetings convened at the site office with representatives of Vaastu Shilpa, M/s. Katira Construction, M/s. Anandjiwala Technical Services and INFLIBNET Centre. The progress made in construction of building and purchases related to it is reviewed by the Building Committee. The names of the members of the building committee are listed in the Appendix I.

#### **4.1. Bhoomi Pooja at the Site of the INFLIBNET's Institutional Building @ INFOCITY Gandhinagar**



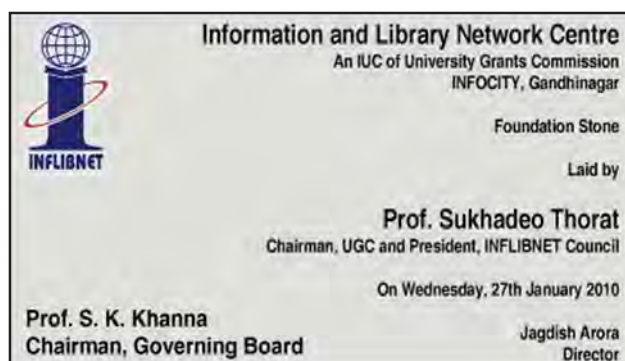
**Fig.2: Prof. S K Khanna, Chairman, Governing Board, INFLIBNET and Dr. Jagdish Arora, Director, INFLIBNET Centre performing Bhoomi Pooja accompanied with Dr. R.K. Chadha, Joint Secretary, Lok Sabha and Member, Building Committee and Mr. Soenke Hoof, Architect, Vaastu Shilpa Consultant**



Bhoomi Pooja was performed at the site of Institutional Building at INFOCITY Gandhinagar on 27<sup>th</sup> October 2009. Prof. S.K. Khanna, Chairman, Governing Board, INFLIBNET Centre, Dr. Jagdish Arora, Director, INFLIBNET Centre, Dr.R.K. Chadha, Joint Secretary, Parliament Library and Member, Building Committee and Mr. Soenke Hoof, Architect, Vaastu Shilpa Consultant participated in the Pooja as shown in figure 2. Representatives from neighbouring institutes also participated in the Pooja.

#### 4.2. Foundation Stone Laying Ceremony of Institutional Building @ INFOCITY, Gandhinagar

The Foundation stone for the Building of the Centre was laid by Prof. Sukhdeo Thorat, Hon'ble Chairman, UGC and President, INFLIBNET Council on 27<sup>th</sup> January 2010 at 12.30 pm. Prof. S.K. Khanna, Chairman, Governing Board, INFLIBNET Centre, Dr.Jagdish Arora, Director, INFLIBNET Centre, Dr. Parimal Trivedi, Vice Chancellor, Gujarat University, Prof. Sudarshan Iyenger, Vice Chancellor, Gujarat Vidhyapith, Prof. R.K. Kale, Vice Chancellor, Central University of Gujarat and Dr. B. V. Doshi, Chief Architect, Vaastu Shipa also graced the occasssion. Fig.3 shows the dignitaries with the Foundation Stone plaque.



**Fig. 3: Prof. Sukhdeo Thorat, Chairman, UGC and Prof. S K Khanna, Chairman, Governing Board with other Dignitaries during Foundation Stone Laying Ceremony**



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## **5. Governance**

The Centre is governed by its Governing Board and Governing Council. The Finance Committee, a subcommittee of the Governing Board, looks after the financial aspects of the Centre. Constitution and major responsibilities of these three committees are described below:

### **5.1. Governing Council**

Governing Council (GC) is an apex body of the Centre chaired by its President, ex-officio Chairman of the UGC. The Council has seven ex-officio members and three nominated members. The members of the Governing Board are also members of the Council, as such, total number of members of the Council is 21. The nominated members of the Council serve for a term of 3 years. The Director, INFLIBNET is the Member-Secretary of the Council. The Council meets once in a year. The present members of the Governing Council are listed in Appendix II.

### **5.2. Governing Board**

Governing Board (GB) manages, administers, directs and controls the affairs of the Centre as per Rules and Bye-laws of the Centre. The Governing Board is headed by a Chairperson, who is an eminent academician in the areas of relevance to the Centre and is appointed by the President of the Council. The Governing Board has six ex-officio members and seven nominated members who are nominated by the Chairman, UGC. The Director, INFLIBNET is the Member-Secretary of the Board. The Governing Board meets at least twice a year. The current members of the Governing Board are listed in Appendix III.

### **5.3. Finance Committee**

The Finance Committee (FC) is a sub-committee of the Governing Board and consists of eight members. It has six ex-officio members and two nominated members. The Chairman of the Governing Board is also the Chairman of the Finance Committee. The Administrative / Accounts Officer of the Centre is the Non-member Secretary of the Committee. The Finance Committee makes recommendations to the Governing Board on i) Budget proposals of the Centre; ii) Scrutiny of the Audited Accounts and replies to the annual Audited Report; iii) Approval of sanctioned and additional positions; and iv) any other matter on which the Board seeks its recommendations. The Finance Committee meets at least once a year. The minutes of the Committee, after approval by the Governing Board are forwarded to the UGC for examination, approval and release of grants to the Centre. The members of the current Finance Committee are listed in Appendix IV.

## 6. Human Resources

The Centre employs administrative, scientific and technical personnel for achieving its defined objectives. The technical personnel are mostly qualified in library, information and computer sciences. A list of technical, administrative and supporting staff of the Centre is given in Appendix V.

## 7. Research and Development Activities

The scientific and technical manpower available in the Centre are grouped into a number of working groups based on functional requirement of the Centre. Major R&D and human resource development activities undertaken by the Centre during the year under report are given below:

### 7.1. Database Management and R & D Group

The development of union databases of various library resources i.e. books, journals and theses has been one of the most important activities of the Centre since its inception. In the beginning, the Centre funded potential universities of the country for creating bibliographic records of their library collections. The union databases named “IndCat: Online Union Catalogue of Indian Universities” created by the Centre is an outcome of the financial and logistic support offered to the universities by the UGC on recommendation of Centre.

The IndCat consists of bibliographic records with holding information from 244 participating universities. These records are received from participating universities in different bibliographic formats that are subsequently edited, collated and merged into a uniform bibliographic format. The IndCat is searchable through on in-house developed search interface at <http://indcat.inflibnet.ac.in>. The major union databases and number of records in each database are listed below in Table 1.

Name of the Database	No. of Records	No. of Institutions
Books	1,18,10,898	123
Current Serials	22,471	205
Serials Holdings	1,16,174	112
Theses	2,38,495	237
Subject Experts	16,100	500
Subject Experts (NISSAT)	24,300	715
Research Project	13,459	UGC, CSIR, ICAR, ICMR, DST and DBT

**Table 1: Number of Records in IndCat and Other Databases**

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The Database Management R & D Group comprises of personnel with background in computer and library science. The personnel with background in library and information science are responsible for obtaining bibliographic records from different universities in different formats and converting them into one common prescribed standard format. They are also responsible for merging new records into the union database after due authentication. The personnel with computer science background are responsible for developing software tools for data conversion, data authentication and web-based search interface for the union catalogue. Union Catalogue Management System (UCMS) and IndCat have been developed in-house to address the requirements of the Database Management R & D Group as mentioned above.

### **7.1.1. Union Catalogues**

A brief description of major union catalogues maintained by the Centre is given below.

#### **7.1.1.1. Union Catalogue of Books**

*Shri Abhishek Kumar, Scientist B (CS)*

*Mrs. Vaishali Parikh, STO- I (LS)*

*Shri Dharmesh Shah, Project Associate (CS)*

*Ms. Reshma S Panchal, Project Assistant (LS)*

*Ms. Seema Chavda, Project Assistant (LS)*

##### **7.1.1.1.1. Process for Building Union Database of Books**

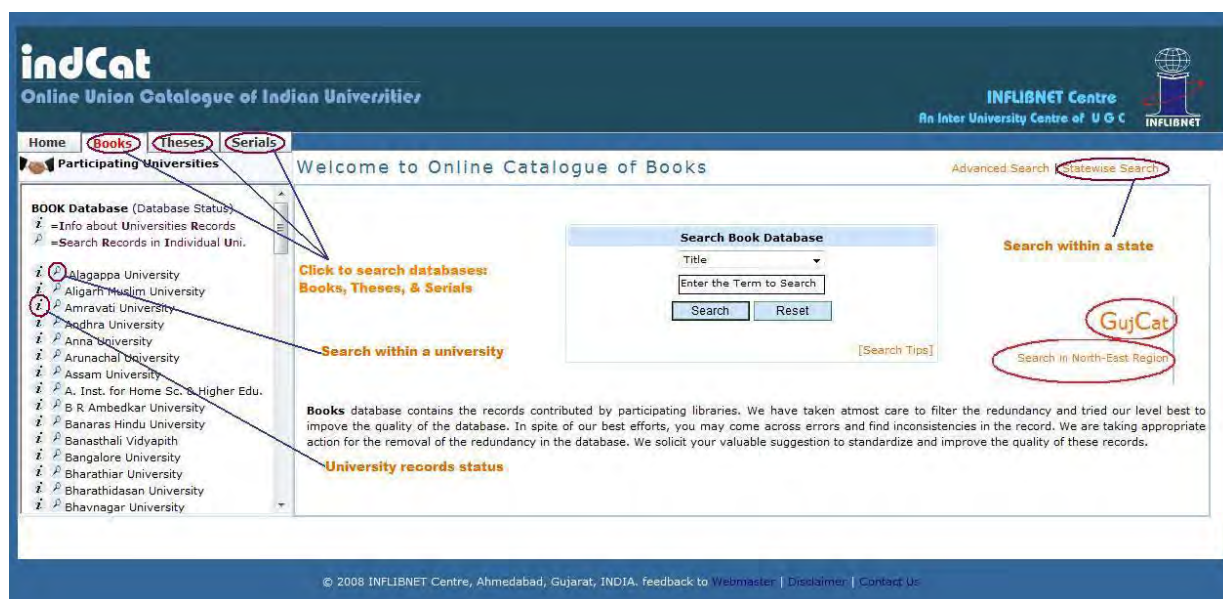
Process of building union catalogue of books commences with creation of bibliographic records in participating university libraries and their receipt at the INFLIBNET Centre. Steps involved in building of union database of books are as follows:

**Step 1.** Universities create bibliographic records of books purchased by them using their local Library Management System (LMS). These bibliographic records are exported in standards formats and sent to the INFLIBNET Centre as per the terms of MoU signed between INFLIBNET Centre and Universities. The Centre receives bibliographic records from them in different formats, such as MS-Excel, MS-Access, Dbase/Foxpro, CDS/ISIS, WINISIS, MS-SQL Backup, CCF, Libsys backup, MARC and its variants.

**Step 2.** Records received in different formats are converted into MARC21 & CCF by using tag mapping features of the CDS/ISIS Software.

**Step 3.** All records go under the process of authentication, using UCMS so as to correct typographical errors in different fields such as place, publisher, edition, year of publication, etc, duplicate data checking and merging of new records into union catalogue of books.

**Step 4.** The Union catalogue of books is made accessible through a web-based interface on IndCat.



**Fig 4: IndCat: Search Interface for Books, Theses and Serials**

Search can be performed on title, words in title, author, subject, ISBN, location, place and publisher in the union database of books through IndCat interface. The IndCat interface provides for restricting the search to collections available within an individual university as well as for expanding the search to universities in a given city or state. By default, the interface searches all bibliographic records available in IndCat for all the participating universities.

The search results retrieved from the IndCat can be displayed in following two formats:

- ❖ **Brief:** By default, retrieved records are displayed in brief when search results are displayed. A brief bibliographic record contains title, author, place, publisher and year of publication.
- ❖ **Descriptive:** A detailed descriptive record contains complete bibliographic details of a book including its location. It is a second-level display that appears when a user clicks at the brief record. The descriptive record also provides option for ILL request.

#### 7.1.1.1.2. Important Features of IndCat

##### i) Restrict Search within a University / State

By default, IndCat searches all records from all 123 participating universities, however, user can restrict their search to a given university. As such, IndCat serves as library OPAC for all universities if search is restricted to a given university. To use this feature, one can click on search icon (🔍) available besides name of the university in the left navigation bar. For example, to search a book in Alagappa University, click at search icon adjacent to name of the university, the screenshot (Fig.5) given below will be displayed. All searches conducted



in this search box would display search results for books available in Alagappa University only. Likewise, user can also expand his/her search to all universities in a given state by choosing option “State-wise search”.

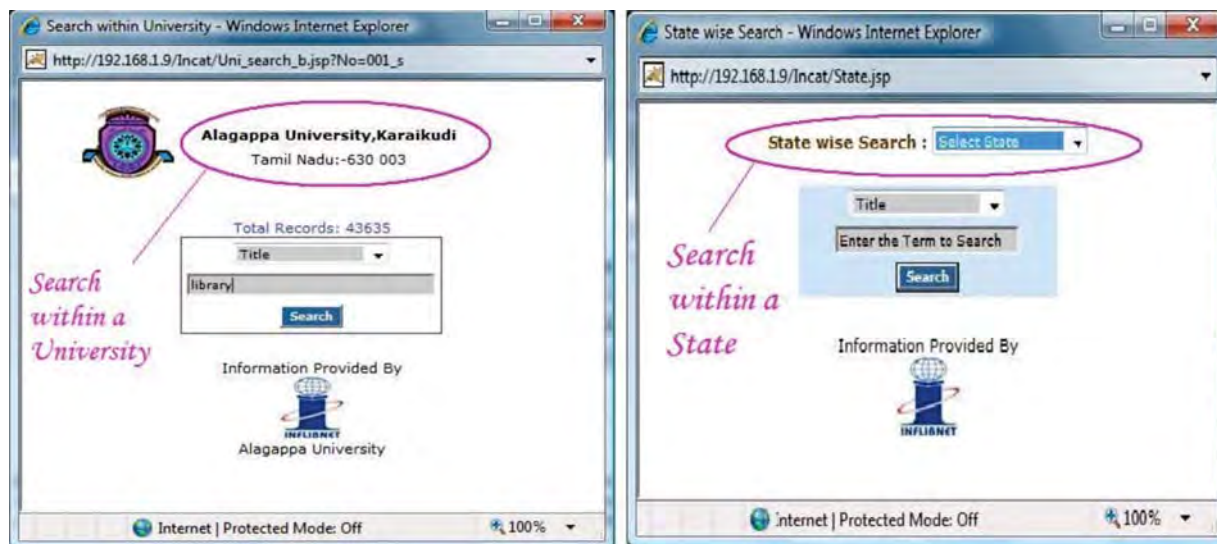


Fig 5: Search Interface Restricted to a University & State

## ii) Copy Cataloguing

The copy cataloguing feature of the IndCat facilitates downloading of bibliographic records in MARC21, CCF or ASCII format. The downloaded bibliographic records can be imported to any library management software compliant to MARC21 bibliographic format including SOUL 2.0. Effectively, librarians / cataloguers can copy-catalogue bibliographic records of books instead of creating a new record which is a time-consuming and cost-intensive process.

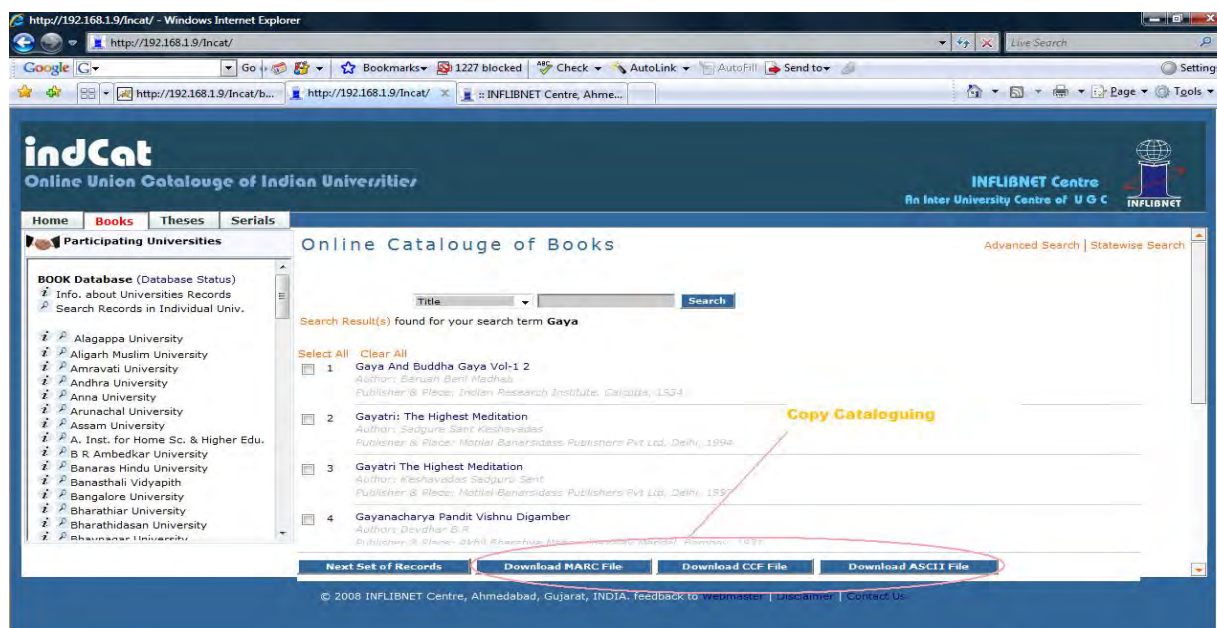
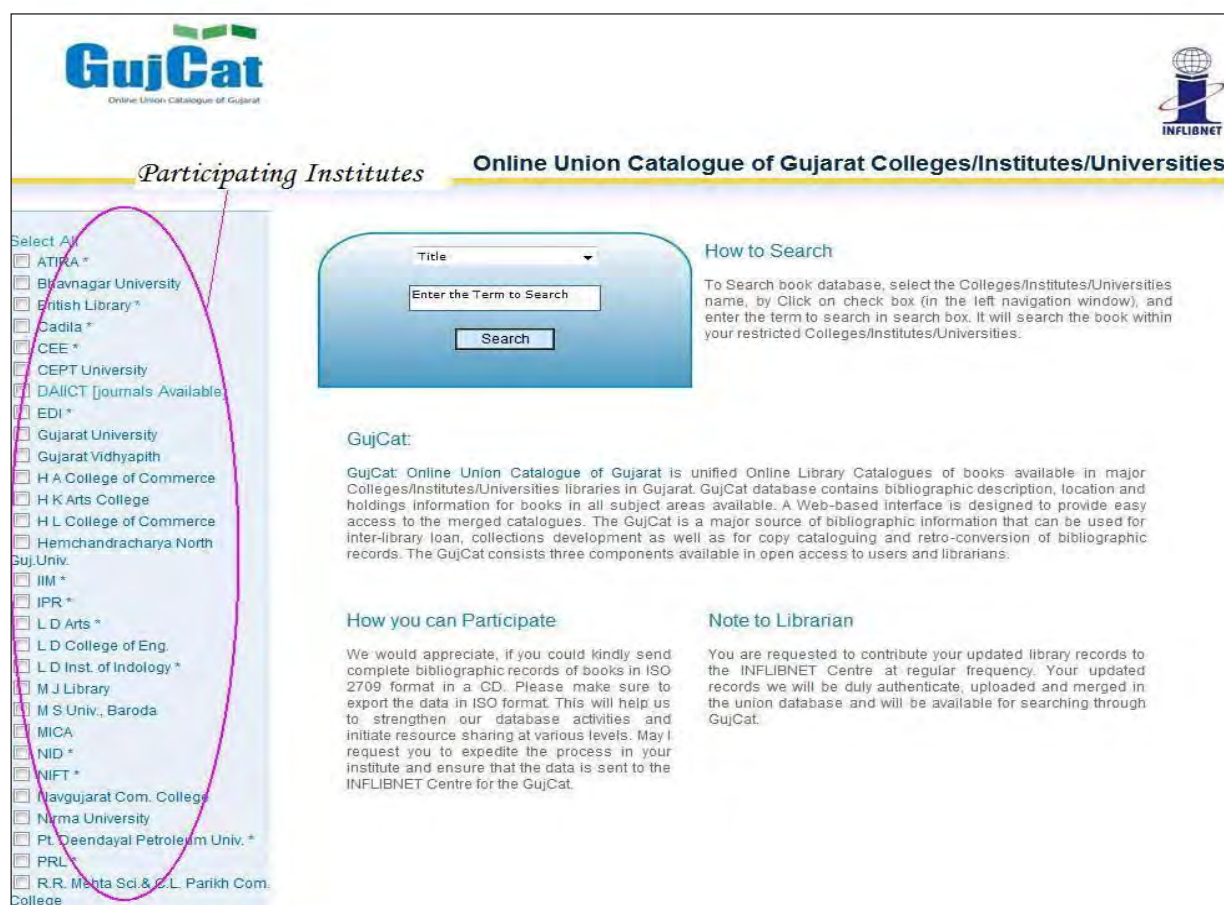


Fig 6: Brief Format and Copy Cataloguing of Searched Records

### iii) Union Catalogue of Books: Subsets

The union catalogue of books has two subsets namely GujCat and NERCat that are separately designed on demand of the concerned regions:

- i) The **GujCat**, a subset of IndCat, is unified online library catalogue of books available in major college/institute/university libraries within Gujarat state. GujCat contains bibliographic description, location and holdings information of books available in libraries in Gujarat. A separate dedicated web-based interface is designed to provide easy-access to the merged catalogues of libraries in Gujarat. GujCat is a major source of bibliographic information that can be used for inter-library loan, collection development as well as for copy cataloguing and retro-conversion of bibliographic records within Gujarat.



**Fig.7: GujCat: Online catalogue for Gujarat's Institutes/Colleges/Universities**

- ii) The **NERCat**, an online catalogue of books of universities in North-Eastern Region, is another subset of IndCat. The interface restricts the search within the bibliographical records of the libraries resources available in the universities of the north-eastern states. NERCat is useful for the inter-library loan in the region.

**Fig.8: NERCat: Online Catalogue for Nort-Eastern Universities**

#### **7.1.1.1.3. Number of Bibliographical Records for Books added during Year 2009-2010**

The details of new bibliographic records from the participating universities that were uploaded into IndCat using UCMS are given in table 2.

Sr. No.	Name of the University	No. of Records Received	Duplicate Records	Matched Records	Merged Records	Data Format
1	Guru Ghasidas University, Bilaspur	22334	548	2549	2302	SOUL
2	Yashwantrao Chavan Maharashtra Open University, Nashik	36254	3549	1985	30719	SOUL
3	University of Bundelkhand, Jhansi	28964	2708	1638	24618	SOUL
4	Bharti Vidhyapith, Pune	20136	10395	116	9625	MARC ISO
5	Gujarat Vidhyapith, Ahmedabad	441868	43831	933	397104	SOUL
6	University of Burdwan, Burdwan	43698	986	10475	32287	SOUL
7	Guru Gobind Singh Indraprastha University, Delhi	16928	567	1885	14476	CCF ISO
8	Tezpur University, Tezpur	25883	1854	2302	21727	Libsys ISO
<b>Total Records</b>		<b>636065</b>			<b>549793</b>	

**Table 2: Details of Merged Bibliographic Records after Editing in IndCat using UCMS**

Sr. No.	Name of the University	Total Records	Data Format
1	Guru Nanak Dev University, Amritsar	122268	ISO-2709
2	Jamia Millia Islamia, New Delhi	64177	ISO-2709
3	Kurukshetra University, Kurukshetra	198633	ISO-2709
4	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur	202803	ISO-2709
	<b>Total Records</b>	<b>5,87,881</b>	

**Table 3: Details of Uploaded Bibliographic Records in UCMS for Authentication after Tag Mapping**

Sr. No.	Name of the University	Total Records	Data Format
1	Deccan College Post Graduate & Research Institute, Pune	140000	Librarian (LMS) backup
2	Indian Institute of Advanced Study, Shimla	67693	ISO-2709 in CCF
3	Mysore University, Mysore	Not Restored	SLIM (LMS) Backup
4	Ranchi University, Ranchi	60554	ISO-2709 in CCF
	<b>Total Records</b>	<b>2,68,247</b>	

**Table 4: Universities that Contributed their Bibliographic Records of Library Resources for the First Time**

Sr. No.	Name of the University	Total Records Imported in UCMS	Data Format
1	Jammu University, Jammu	95103	CCF ISO
2	Mahatma Gandhi University, Kottayam	40439	SOUL ISO
3	Maulana Azad Urdu University, Hyderabad	Not Restored	NewGenLib Backup
4	North Bengal University, Darjeeling	105579	SOUL ISO
5	Sant Gadge Baba Amravati University, Amravati	64888	SOUL Backup
6	Swami Ramanand Teerth Marathawada University, Nanded	29651	SOUL Backup
7	Tezpur University, Tezpur	25888	Libsys ISO
8	Veer Narmad South Gujarat University, Surat (3 <sup>rd</sup> time)	186000	SOUL Backup
	<b>Total Records</b>	<b>5,47,548</b>	

**Table 5: Universities that Contributed their Updated Bibliographic Records (2<sup>nd</sup> Batch)**



Sr. No.	Name of the University
1	Awadhesh Pratap Singh University, Rewa (MP)
2	Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarnagar (Bihar)
3	Barkatullah Vishwavidyalaya, Bhopal (MP)
4	Berhampur University, Berhampur (Orissa)
5	Birla Institute of Technology, Ranchi (Jharkhand)
6	Central Inst. of Higher Tibetan Studies, Varanasi (UP)
7	Chaudhry Charan Singh University, Meerut (UP)
8	Dr. Harisingh Gour Vishwavidyalaya, Sagar (MP)
9	Dr. Ram Manohar Lohia Awadh University, Faizabad (UP)
10	H N B Garhwal University, Srinagar (Uttarakhand)
11	Jawaharlal Nehru Technological University, Hyderabad (AP)
12	Maharshi Dayanand University, Rohtak (Haryana)
13	Mahatma Gandhi Kashi Vidyapeeth, Varanasi (UP)
14	National Law School of India University, Bangalore (Karnataka)
15	Patna University, Patna (Bihar)
16	Rajasthan University, Jaipur (Rajasthan)
17	Rajasthan Vidyapeeth, Udaipur (Rajasthan)
18	Sri Chandrasekharendra Saraswati Vishwavidyalaya, Kanchipuram (Tamilnadu)
19	Sri Lal Bahadur Shastri Rastriya Sanskrit Vidyapeeth, New Delhi
20	Tripura University, Agartala (Tripura)
21	University of Lucknow, Lucknow (UP)
22	Utkal University, Bhubaneswar (Orissa)
23	Vikram University, Ujjain (MP)

**Table 6: Universities that did not Contribute their Bibliographic Records**

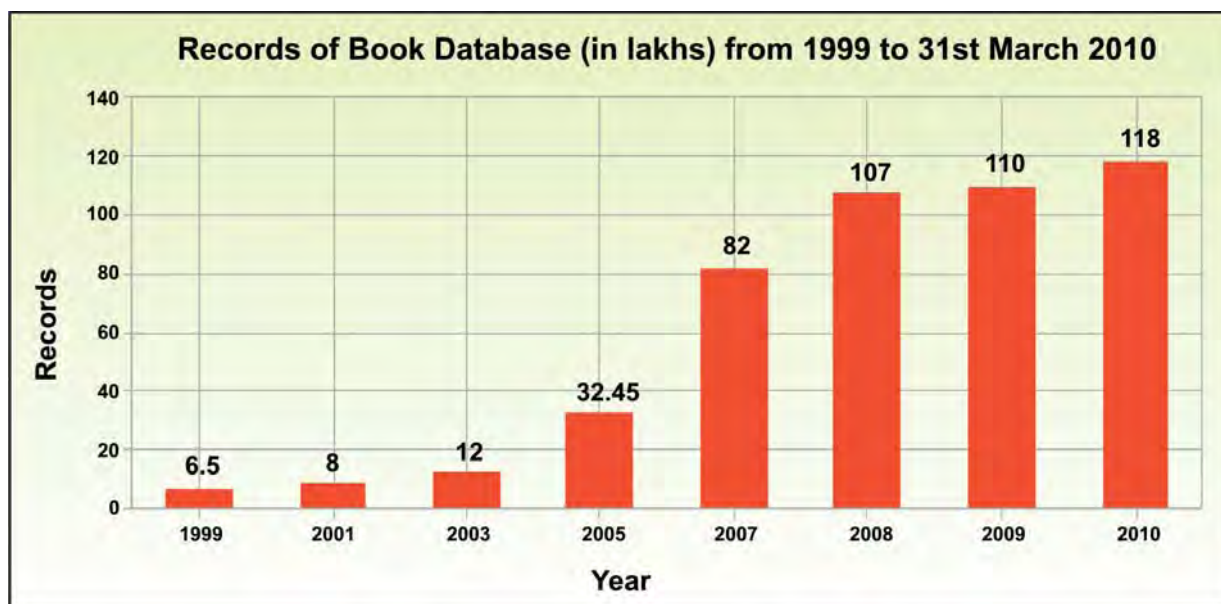
Sr. No.	Details	Before April 2009	From April 2009 to March 2010
1	Unique Records	49,62,833	55,51,849
2	Holding Records	53,76,196	59,17,922

**Table 7: Bibliographic Records Authenticated and Merged into IndCat**

#### 7.1.1.1.4. Growth of Union Catalogue of Books

Building and maintaining the union catalogue is an ongoing activity of the Centre involving collaboration of all participating libraries. With initial financial incentives backed-up with logistic support in terms of training and availability of SOUL software, the Union Catalogue of

Books has witnessed rapid growth. It has grown from 6.5 lakhs records in 1999 to 118 lakhs records in 2010 as depicted in Fig. 9. List of the universities and number of records contributed by them are listed in the Appendix VI.



**Fig. 9: Growth of Union Catalogue of Books**

#### **7.1.1.1.5. Major Achievement in year 2009-10**

- ❖ Merging Bibliographic Records of Books into IndCat: 5,49,793 bibliographic records of books from eight universities were merged after due authentication into union database of books (IndCat).
- ❖ Receipt of New and Updated Bibliographic Records of Books from Additional Universities: Four universities sent bibliographic records of books for the first time and eight universities sent updates of their bibliographic records of books.
- ❖ Bibliographic Format Migration for New Version of Union Catalogue: 20 lakhs bibliographic records of books were migrated from CCF (Common Communication Format) to CSV (Comma-Separated Values) and CSV to MARCXML after authentication of 28 fields. The format migration of bibliographic records is being done for developing a new Lucene-based search and browse interface for the IndCat that supports faster search along with clustering of search results under major disciplines and sub-disciplines.
- ❖ Persistent Follow-up with Additional Universities for Library Automation Activities: Follow-up action was taken with universities that have received financial grant for library automation and not contributed their bibliographic records to the Centre. Universities that have been contributing their bibliographic records to the Centre were requested to send updates of their bibliographic records of the library resources to the INFLIBNET Centre.

- ❖ Financial Support to 29 Universities for Library Automation: 29 Universities that did not receive funding during IXth Plan period for library automation were requested to submit proposal for obtaining financial support for library automation and sign a MoU with the INFLIBNET Centre for contributing bibliographic records of their library resources for the INFLIBNET's Union Catalogue, i.e. IndCat. 23 out of 29 universities have signed up the MoU.
- ❖ Interface for Web-Based Updation of Serials: A new web-based interface was designed that enables INFLIBNET staff to update the current serials database online.
- ❖ Interface for Web-Based Registration of Theses Database: A new web-based interface was designed that enables INFLIBNET staff to enter bibliographic information of the thesis online.

#### **7.1.1.2. Union Catalogue of Serials**

*Shri Rajesh Chandrakar, Scientist B (LS)*

*Ms. Kanchan Chavda, Project Assistant (LS)*

Two separate union databases on serials, namely Serials Holdings and Current Serials, are maintained by the Centre. While “serials holdings” provides data on library holdings, i.e. back files, whereas, the “current serials” provides names of serials that are currently subscribed by the participating universities and the UGC-Infonet Digital Library Consortium.

##### **7.1.1.2.1. Serials Holdings**

The Serials Holdings includes bibliographic information of serials (including journals, periodicals, annuals, serials) available in more than 112 universities / Institute libraries along with its holdings information (includes available and missing volumes of journals) in participating libraries. The holdings database has over 16,842 unique titles with 57,523 holdings information for 112 universities. Minimum bibliographic information alongwith holdings details and names of the universities are provided for each record. After the launch of UGC-Infonet Digital Library Consortium, that provides access to current as well as back volumes of a large number of journals in the electronic format, most of the university libraries have stopped maintaining their holding databases of their serials.

##### **7.1.1.2.2. Current Serials**

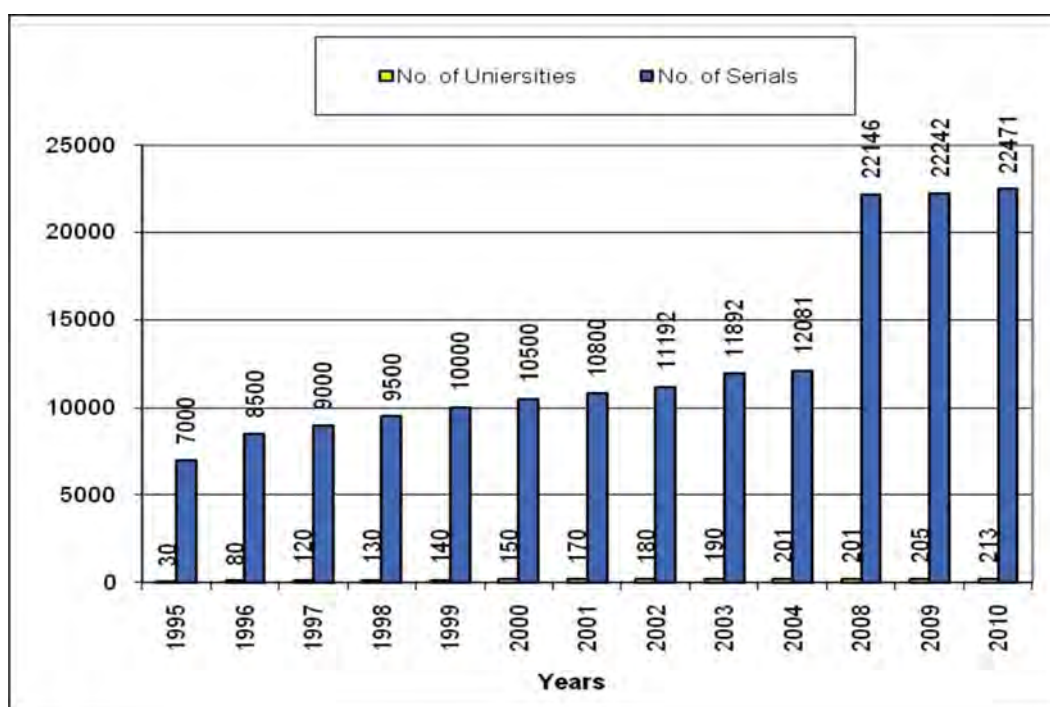
The Union database of current serials (including journals, periodicals, annuals, serials) consists of 22,471 unique bibliographic records subscribed by 213 university / institute libraries including the titles of the e-resources subscribed under the UGC-Infonet Digital Library Consortium, open access journals and journals being subscribed by the 22 ILL designated libraries in electronic and print formats. This database includes 12,738 journal titles with brief bibliographic information alongwith the names of 57,000 library holdings from year 2008 to 2010 and 10,065 e-journals subscribed by the UGC-Infonet Digital

Library Consortium, e-journals available in the open access mode and the journals being subscribed by the 22 ILL designated libraries. Table 8 shows the growth of current serials database in terms of a number of records from 1995 to March 2010 and Fig. 10 is a pictorial depiction of the same.

Of 279 universities and institutions that were requested to send the list of the current serials being subscribed by them, 54 universities and institutions responded and submitted list of their current serials. Reminders were sent to remaining 238 universities and institutions with a request to contribute their current serials list being subscribed by their libraries.

<b>Year</b>	<b>No. of Universities/ Institutions</b>	<b>No. of Serials</b>
1995	30	7000
1996	80	8500
1997	120	9000
1998	130	9500
1999	140	10000
2000	150	10500
2001	170	10800
2002	180	11192
2003	190	11892
2004	201	12081
2008	201	22146
2009	205	22242
2010	213	22471

**Table 8: Growth in Number of Records in Current Serials Database: 1995 – 2010**



**Fig. 10: Year-wise Growth of the Current Serials Database**

### 7.1.1.3. Union Catalogue of Theses

*Shri Rajesh Chandrakar, Scientist B (LS)*

*Shri Imran Mansuri, Project Assistant (LS)*

*Ms. Jigisha N. Pandya, Trainee (Office Assistant DEO)*

The Union Catalogue of Theses consists of bibliographic records of doctoral theses submitted to 237 universities / institutions in India. It contains 2,38,495 unique records of the theses awarded since 1906 in all disciplines. The bibliographic records of theses are contributed by participating universities; besides, records of theses have also been collected from other reliable sources such as notification from universities, University News, etc.

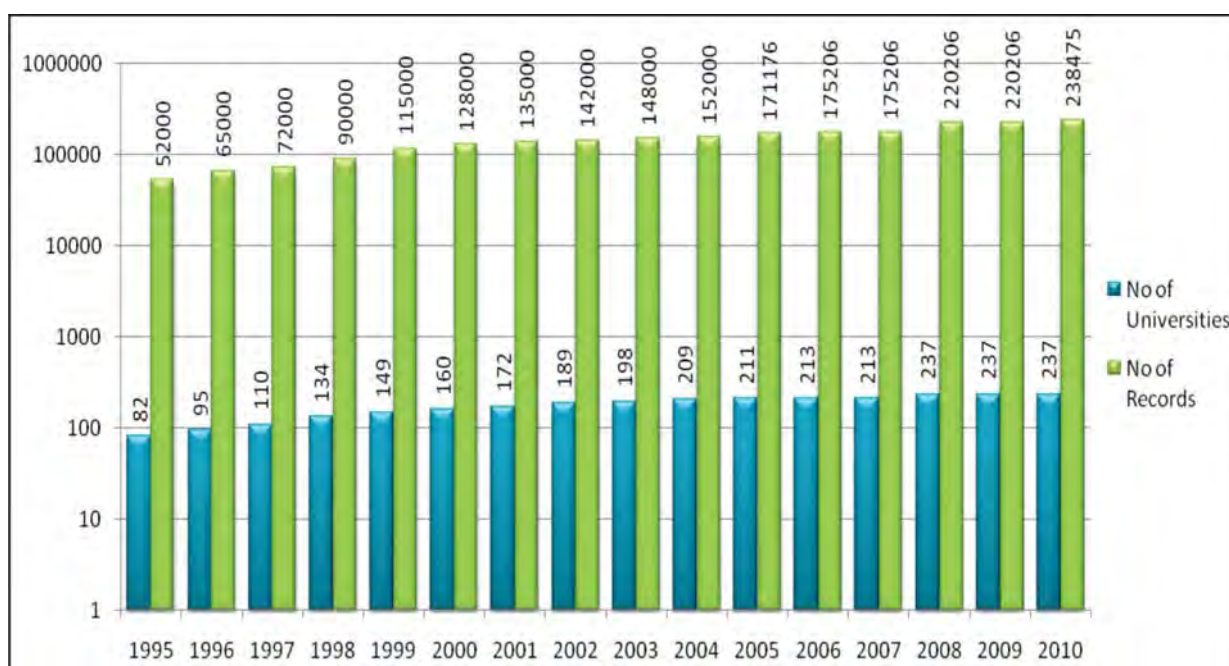
The compilation of Union Catalogue of Theses commenced in 1995 with 52,000 records from 82 universities. The database has grown to 2,38,495 records by March 2010 from 237 universities over a period of 15 years.

As part of the UGC's instruction to the universities and institutions awarding Ph.Ds on various subjects, either research cell or registrar of the degree awarding universities and institutions, need to send a copy of the notification on award of PhD degrees to the INFLIBNET Centre. The research cell and registrar of 272 universities and institutions were requested to send a copy of the notification to the INFLIBNET Centre during the year under report. The Centre now receives notification of award of Ph.D. theses from more than 64 universities. Table 9 and Fig. 11, given below, depict growth of theses database from 1995 to March 2010.



Year	No of Universities	No of Records
1995	82	52,000
1996	95	65,000
1997	110	72,000
1998	134	90,000
1999	149	1,15,000
2000	160	1,28,000
2001	172	1,35,000
2002	189	1,42,000
2003	198	1,48,000
2004	209	1,52,000
2005	211	1,71,176
2006	213	1,75,206
2007	213	1,75,206
2008	237	2,20,206
2009	237	2,20,206
2010	237	2,38,475

**Table 9: Growth in Number of Records in Theses Database: 1995 – 2010**



**Fig. 11: Year-wise Growth of the Theses Database**

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Theses database can be searched through IndCat interface by title, researcher, guide, university, department, year of submission, subject keywords, etc. Bibliographic records of the theses are linked to records in “Shodhganga” wherever full-text is available. List of universities and the number of records contributed by them to the union catalogue of theses is given in the Appendix VI.

#### **7.1.1.4. Software Tools Used for Building and Maintenance of Union Catalogue**

*Shri Abhishek Kumar, Scientist B (CS)*

*Shri Dharmesh Shah, Project Associate (CS)*

##### **7.1.1.4.1. Union Catalogue Management Software (UCMS)**

The UCMS is a windows-based application, developed in-house, by the Centre. It is used for authentication and re-formatting of bibliographic records received from the universities and for merging the new records into the existing union catalogue of books along with holdings details. The UCMS is developed by using VB.net as a front-end and MS-SQL as a back-end. Major features of the software of the UCMS are as follows:

- i) User friendly Graphic User Interface;
- ii) Uploading bibliographic records in ISO 2709 format;
- iii) Editing typographical mistakes in the fields such as Place, Publisher, Edition and Year of Publication;
- iv) Duplicate checking of bibliographic records;
- v) Export facility in ISO 2709 format; and
- vi) Updates and editing of bibliographic records either individually records or globally, i.e. in full database.

##### **7.1.1.4.2. IndCat: Online Union Catalogue of Indian Universities**

IndCat is a web-based search interface for the union databases of books, serials, and theses. The interface facilitates users to interact with the union databases by searching, browsing and displaying bibliographic records stored in MS-SQL relational database management system. Detailed information about the IndCat is given under 7.1.4.1.

Technology Used: Dream Viewer, Cascaded Style Sheet (CSS), AJAX, Core Java, Servlet, JavaBeans, JDBC, JSP, Javascript, MS-SQL.

System Optimization: The following steps were taken to optimize search and retrieval process used in the IndCat:

- ❖ Modification of the table structure like assigning primary key, composite key, etc.
- ❖ Creation of new table to fetch detailed information on university
- ❖ Captcha to avoid SQL injection while downloading

- ❖ Create stored procedures to improve the search retrieval
- ❖ String tokenise is used to mark search result in different colour

#### **7.1.1.5. Subject Experts Database**

*Shri Rajesh Chandrakar, Scientist B (LS)*

*Ms. Kanchan Chavda, Project Assistant (LS)*

The INFLIBNET Centre has two databases on subject experts, namely: i) NISSAT Expert Database: an expert database in science and technology; and ii) University Expert Database: an online profiles of academicians in Indian universities. The “NISSAT” database was created with financial support from NISSAT (National Information System for Science and Technology), New Delhi during 2000 to 2002. The database contains around 24,300 profiles of the Subject Experts from the Science and Technology domains of 715 institutions especially covering CSIR (Council for Scientific and Industrial Research) institutions and its labs. The experts, whose profiles are available in the database, are assigned login ID and password for online updation of their profiles as and when needed. After covering all the institutions and labs, now, the database is made available for the voluntary submission and updation by the subject experts themselves.

The “University Expert” database is an initiative of the INFLIBNET Centre that contains around 16100 profiles of the subject experts serving in the UGC-funded universities, colleges and institutions. This database is being updated regularly. The Head of the Departments of the universities and institutions are being requested to submit the expert profiles of their faculty members. The database also provides unique persistence URL to each expert profile by linking their registration number in the database with the URL. Further, every expert whose profile is available in the database, has been provided login ID and password with the persistence URL for future updation of their profiles. Both the databases can be searched on parameters such as name, designation, institution, subject, specialization, state, etc.

#### **7.1.1.6. Research Project Database**

*Shri Rajesh Chandrakar, Scientist B (LS)*

*Ms. Kanchan Chavda, Project Assistant (LS)*

*Shri Mohit Kumar Dabas, Project Assistant (CS)*

The Research Project Database provides details of completed and ongoing projects, carried out by faculty members working in universities and institutions across the country. The database contains more than 13,459 records of research project funded by funding agencies such as UGC, CSIR, ICAR, ICMR, DST and DBT. The majority of records of project are for minor and major research projects funded by the UGC. The Centre gets project details along with the project report in print and digital format from the project investigators regularly. The softcopy and print copy of the project report is available at the INFLIBNET Centre for Walk-in users.

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## 7.2. Software R & D Group

The Software R & D Group of the Centre is involved in development of software based on the functional requirements, day-to-day activities and services of the Centre including development on library automation system called SOUL 2.0 and customization of open source software.

### 7.2.1. SOUL 2.0

*Sh. Yatrik Patel, Scientist C (CS)*  
*Sh. Divyakant Vaghela, Project Officer (CS)*  
*Sh. Dinesh Rayka, Project Officer (CS)*  
*Sh. Swapnil Patel, Project Officer (CS)*  
*Ms. Heli Banker, Project Officer (CS)*

The SOUL 2.0 (Software for University Libraries) is a state-of-the-art integrated library management software designed and developed by the INFLIBNET Centre based on requirements of colleges, universities and other academic libraries. It is user-friendly software developed to work under client-server environment. The software is compliant to international standards for bibliographic formats and circulation protocols. After a comprehensive study, discussions and deliberations with the senior professionals of the country, the software was designed to automate all house-keeping operations in a library. The software is suitable not only for the academic libraries but for all kinds of libraries. SOUL 2.0 is compliant to international standards such as MARC 21 bibliographic format, Unicode based Universal Character Sets for multilingual bibliographic records and NCIP 2.0 and SIP 2 based protocols for RFID, electronic surveillance and control.

This software was released in January 2009, and was well received by the academic libraries in India. Total number of installation of SOUL 2.0 has crossed 2000 during 2009-2010. Software Development Team of the Software R & D Group is the motivating force behind the growing installation base and on-going fine tuning of the software based on inputs received from users. This Group is also helping SOUL Support Unit in trouble shooting during installation and operations.

**Technologies:** Visual Studio .Net, Microsoft SQL Server 2005, Microsoft Server Platform

### 7.2.2. Customization of SOUL 2.0 and Data Transfer

*Sh. Yatrik Patel, Scientist C (CS)*  
*Sh. Divyakant Vaghela, Project Officer (CS)*  
*Sh. Dinesh Rayka, Project Officer (CS)*

With release of SOUL 2.0, Centre has also introduced scheme for customization of the software on payment basis as per the requirement of libraries. Under this scheme, SOUL

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2.0 can be tailored as per requirement of specific libraries. Moreover, this Group is also responsible for converting client's existing data (in any format) to SOUL 2.0 compatible-format on payment basis. A number of clients were given customization and data transfer service on payment basis during the year under report.

**Technologies:** Visual Studio .Net, Microsoft SQL Server 2005, Microsoft Server Platform

### **7.2.3. SOUL Query Management System (SQMS): Web-based interface for SOUL 2.0 Customer Support**

*Sh. Yatrik Patel, Scientist C (CS)*

*Sh. Vijay Shrimali, Technical Assistant (CS), SOUL Support*

*Ms. Ami Modi, Project Associate (CS)*

*Ms. Heli Banker, Project Officer (CS)*

SOUL Query Management System (SQMS) is designed to handle and manage user's query about SOUL Software. The system is used for extending online support for SOUL software and for handling queries of SOUL users. SQMS consists of two modules i.e. System User and SOUL Users.

System User module is designed for use of administrator to monitor and manage the queries fed to SQMS. System User module provides system user's list, queries received list, query details, query status, query track, etc. SOUL User module is designed for use by the end users for logging-in their queries. All SOUL Users are end user of this system. Users can perform operations like feed queries, check status of their queries, add contact person details from the institute including their institute details, etc.

At present SQMS is being tested and existing users are being ported into the system. It is planned to develop an integrated system which takes care of all in-house operation as well as queries and trouble shooting for users related to SOUL 2.0.

**Technologies:** Visual Studio .Net, SQL Server 2005

### **7.2.4. Subject Gateway Management System (SGMS)**

*Sh. Yatrik Patel, Scientist C (CS)*

*Sh. Swapnil Patel, Project Officer (CS)*

Subject Gateway Management System (SGMS) is designed to facilitate entry of Internet resources and extending its access to users. SGMS supports browsing of Internet resources by Dewey Decimal Classification (DDC) Scheme. The main functional parts of subject gateway are:



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#### **7.2.4.1. Dewey Decimal Classification (DDC) Search**

Internet resources fed into SGMS are organized accordingly to DDC classification (from 000 to 900). On clicking at main classes, sub-classes are displayed as per the DDC classification scheme. Users can see the list of electronic resources available under the sub-classes with brief description on each resource.

#### **7.2.4.2. Search Cloud**

Keywords that appear in DDC are shown as link in search cloud. Most frequently used keywords appear on homepage of SGMS with number of hits for that keyword. Users can access resources by clicking on the keyword that appears on the search cloud. Keywords that are searched more frequently are displayed in larger and bolder size as compared to other keywords.

#### **7.2.4.3. Free-Text Search**

Searches can be performed on words that appear in title of resources, keywords that are assigned to Internet resources and words that appear in the description of e-resources, etc.

#### **7.2.4.4. Alphabetical Search**

Users can browse list of subjects arranged alphabetically.

#### **7.2.4.5. Resource Type Search**

User can also browse Internet resources by type i.e. corporate website, e-book, e-journals, personal websites, portals, etc.

#### **7.2.4.6. Intute Search**

Intute, well known subject gateway developed by MIMAS as a JISC-funded project is embedded on the website of UGC-INFONET Digital Library Consortium and N-LIST using code written in ajax, users can search Intute website, results fetched from Intute are displayed at the INFLIBNET website with link to the website of original resources.

**Technologies:** Visual Studio .Net, ASP .Net, Microsoft SQL Server, Microsoft Server Platform.

#### **7.2.5. Lucene Based Search Interface for Union Catalogue**

*Sh. Yatrik Patel, Scientist C (CS)*

*Sh. Dinesh Rayka, Project Officer (CS)*

The Union Catalogue presently uses features and functionalities of search query language available in an RDBMS. As such multiple joints are required to retrieve specific search

results that take more time in processing of queries. With increase in size of union database and dependence on SQL and RDBMS, time taken in retrieval of search results for a query is increasing. As such, it was inevitable to use alternative technologies for conducting search on records available in union catalogue.

After evaluating available technologies, it was decided to experiment with Apache Lucene which is a high-performance, full-featured text search engine library written entirely in Java. It is a technology suitable for nearly any application that requires full-text search, especially cross-platform. Moreover, Software R & D Group experimented with SOLR in conjunction with Lucene which is highly scalable, supports distributed search and index replication. The software powers the search and navigation features of search world's largest Internet sites, it also facilitates and supports powerful full-text search, hit highlighting, faceted search, dynamic clustering, database integration, etc.

Implementation of Lucene-based Search Interface for Union Catalogue will facilitate users to conduct a single search across databases of books, theses and journals available in major university libraries in India. The union database contains bibliographic description, location and holdings information for books, journals and theses in all subject areas available in more than 121 university libraries across the country.

Bibliographic data is stored in MARCXML format and Lucene-based index is created using MARCXML records on different fields. SOLR is used for running the query and displaying results in clusters of discipline and sub-discipline.

#### **Features:**

- ❖ Free text search where User can search by any parameter
- ❖ Refine search facility where user can search within displayed results and get more focused result
- ❖ Faceted search facilitates displaying of most searched keywords first in the ranking of results
- ❖ User can search records from particular university
- ❖ User can search records from all universities of particular state
- ❖ It provide advance search facility so that user get fast result by different parameter

**Technologies:** Apache Lucene, Apache Solr, MarcXML, Java, JSP, SolrJs, Apache Tomcat.

#### **7.2.6. Search Interface for CEC Video Database**

*Sh. Yatrik Patel, Scientist C (CS)*

*Sh. Dinesh Rayka, Project Officer (CS)*

*Ms. Jayaja Krishnan, Media Tape Librarian, CEC, New Delhi*

*Sh. Ashok Kumar Rai, Scientist D (CS)*

The Consortium for Educational Communication (CEC) and INFLIBNET Centre, in its endeavour to reach out to the unreached, are collaborating for dissemination of textual and

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visual resources through use and application of ICT. The CEC and the INFLIBNET Centre of UGC provide information support for education and research to colleges and universities through their services and facilities. The CEC concentrates on creation and dissemination of multimedia-based learning e-resources, the INFLIBNET specialises in textual-based information retrieval services through its union databases and by facilitating access to full-text and bibliographic e-resources through consortium arrangements. Both the organizations make intensive use of Internet, Web and other communication technology to develop and disseminate their services. While both the institutions work primarily for the same goal, albeit separately, there is a lot of scope for two institutions to cooperate, coordinate and collaborate in the process of creation, development and dissemination of their resources and services. CEC in its collaborative endeavour with INFLIBNET would soon be providing bibliographical text-based databases of educational video programmes.

CEC video database consists of bibliographic information about videos produced by CEC and its 17 EMMRCs. The Lucene-based search interface designed to facilitate users to interact with CEC Video database, browse, search and retrieve records from it. This interface is totally based on MARCXML. Video informations are stored in MARCXML format which was originally provided in MS Access Format. After Converting to MARCXML, Lucene is being used for creating Index of stored MARCXML data by different field and stored into system as a flat file. Apache Solr is being used to run search query using SolrJs and Jsp is being used to display results. Presently this interface is under test mode and will be launched formally very soon.

### **Features**

- ❖ User can search by title, contributor, media centre, etc.
- ❖ Free text search where user can search by any parameter
- ❖ It provide Auto suggestion facility therefore user can perform search in exact words
- ❖ Faceted search facility
- ❖ Refine search Facility

**Technologies:** Apache Lucene, Apache Solr, MarcXML,Java, Jsp, SolrJs, Apache Tomcat.

### **7.3. UGC-Infonet Connectivity Programme**

*Sh. Manoj Kumar K, Scientist D (CS)*

*Sh. Ramiz Malik, Project Officer (CS)*

*Ms. Leena J.Parmar, Project Assistant (CS)*

University Grants Commission (UGC), with its responsibility to coordinate and maintain high standards in university education, had launched the UGC INFONET Programme to bring about a qualitative change in the academic infrastructure, especially for higher education. Under this initiative, the UGC facilitates modernization of university campuses with state-of-the-art campus wide networks. Besides, each university gets Internet bandwidth with

dedicated IP addresses through a national-level ISP. The scheme was inaugurated by the then Hon'ble Prime Minister of India with the commencement of UGC's Golden Jubilee celebrations on 25th December, 2002.

Services of a national-level Internet Service Provider (ISP) is deployed to provide Internet connectivity as well as for resource conceptualization, planning, establishing and maintaining network and communication infrastructure for all universities covered under 12(B) and 2(F) Sections of the UGC Act.

The INFLIBNET, as an IUC of the UGC, acts as a coordinating agency for monitoring the network and Internet bandwidth provided to the universities under the scheme and liaisons between ISP and universities. The project is managed by the Central Connectivity and Monitoring Committee (CCMC) constituted by UGC for taking policy decisions. Composition of current CCMC is given in Appendix IX.

### **7.3.1. Aims and Objectives**

The UGC-INFONET provides Internet bandwidth, a pre-requisite for delivery of scholarly content subscribed through the UGC-INFONET Digital Library Consortium. Major objectives of UGC-INFONET Connectivity Programme are as follows:

- i. To serve as a vehicle for distance learning and facilitate spread of quality education all over the country;
- ii. To facilitate delivery of education material including electronic journals and bibliographic databases to all eligible universities in the country;
- iii. To serve as a resource for researchers and scholars for tapping the most up-to-date information;
- iv. To act as a medium for collaboration among teachers and students, not only within the country but also all over the world;
- v. To facilitate Intranet infrastructure for beneficiary universities;
- vi. To serve as a channel for globalization of education and facilitate the universities in marketing their courses, their project and R & D activities;
- vii. To establish a Wide Area Network in the Nation to connect all universities and IUCs in India to a common backbone network;
- viii. To facilitate each university to host their Web sites and other resources for access through this network;
- ix. To facilitate access to full-text e-resources and bibliographic databases through the UGC-Infonet Digital Library Consortium secured link with IP authentication;
- x. To provide security and other protection for the network against attacks, hacking, etc.;



- xi. To provide backbone network to support video conferencing facilities between the connected universities;
- xii. To assist or support university to establish their network infrastructure and Campus Wide Network for effectively using UGC Infonet;
- xiii. To train the computer professionals, if required, for handling the network properly; and
- xiv. 32 IP addresses to each university to access e-resources.

157 Universities and 5 IUCs are being given Internet bandwidth ranging from 256 Kbps to 2 Mbps under the scheme as on 31st March 2010. The connectivity status as on March 31, 2010 is shown in the Table 10. The names of the universities and their Internet bandwidth provided under the UGC-INFONET Connectivity programme are listed in Appendix VIII.

LL 2 Mbps (1:1)	128
SCPC 1 Mbps	2
SCPC 512 Kbps	5
SCPC 256 Kbps	1
BB VSAT 512 Kbps	1
BB VSAT 256 Kbps	20
<b>Total</b>	<b>157</b>

**Table 10: No. of Universities and Internet Bandwidth available to them**

### **7.3.2. New ISP Selected for UGC-Infonet**

The Guidelines for UGC-Infonet Connectivity Programme, implemented in the year 2009, provides for selection of ISP with better national network infrastructure. The following steps were taken to select an alternative ISP with better communication infrastructure:

- i) Expression of Interest (Eoi) was invited from ISPs through leading national dailies as well as through the Centre's Web site.
- ii) A Technical Committee was constituted by the Director, INFLIBNET Centre in consultation with the Chairman, CCMC to evaluate the Eoi submitted by various ISPs. Meeting of the Technical Committee was convened on 22<sup>nd</sup> January, 2010 wherein ISPs who had submitted their "Expression of Interest" were requested to make a presentation on their ISP and their proposed model for implementation of UGC-INFONET. The Technical Committee, based on the parameters specified in

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EoI for evaluation of ISPs, shortlisted M/s BSNL for submission of technical and financial bid.

- iii) A detailed “Request for Proposal” (RfP) was prepared by the Technical Committee specifying the technical requirements, SLA, terms and conditions for providing Internet bandwidth and BSNL was requested to submit their responses to the RfP along with their commercial quotes.
- iv) As per the UGC-INFONET Guidelines approved by the Commission, a Negotiation Committee was constituted with members from Governing Board, CCMC and INFLIBNET to carry-out final negotiations.
- v) Meeting of the Negotiation Committee was convened on 25<sup>th</sup> February 2010 to carry out negotiations with the BSNL on rates of Internet bandwidth as well as terms and conditions, technical requirements, SLA, etc. Rates of Internet bandwidth negotiated during the Meeting of the Negotiation Committee were placed before the CCMC for approval.
- vi) The CCMC, in its meeting held on 25<sup>th</sup> February 2010 approved 10 Mbps Internet connectivity for all universities at the rate of Rs. 7.25 lakhs per university proposed by BSNL and recommended by the Negotiation Committee in light of the fact that the BSNL has made their lowest offered if all the 200 universities are given 10 Mbps bandwidth.
- vii) Orders for providing Internet connectivity to more than 180 universities covered under 12(B) / 2(F) Section of the UGC Act w.e.f. 1<sup>st</sup> April 2010 were placed with the BSNL.

It may be noted that the UGC-INFONET has essentially paved the way for National Knowledge Network (NKN) that would provide 1 Gbps MPLS connectivity to all universities in India since the Fiber laid for providing 10 Mbps connectivity to universities under UGC INFONET 2.0, can also be used for 1Gbps connectivity.

### 7.3.3. Rates of Internet Bandwidth Approved by the CCMC for the UGC-Infonet Connectivity Programme

Rates negotiated by the Negotiation Committee and approved by the CCMC are given in table 11.

Sl. No.	Item	Bandwidth in Mbps IBW	BSNL standard Tariff	Original Quote (Rupees per annum*)	Negotiated Rates (Rupees per annum*)
1	Internet Leased Line (1:1 unshared)	4	1650000	330000	Rs. 325,000
2	Internet Leased Line (1:1 unshared)	6	2462500	492500	Rs. 485,000
3	Internet Leased Line (1:1 unshared)	8	3275000	655000	Rs. 650,000
4	Internet Leased Line (1:1 unshared)	10	4000000	800000	Rs. 725,000
* Including required equipment					

**Table 11: Approved Rates for Internet Bandwidth**

The CCMC constituted a Project Technical Steering Committee (PTSC) to monitor effective and timely execution of UGC-Infonet 2.0 with the following members:

- ❖ Shri Manoj Kumar K, Scientist-D (CS), INFLIBNET Centre – Convener
- ❖ Shri Yatrik Patel, Scientist-C (CS), INFLIBNET Centre
- ❖ Shri. D.M.Pathak, SDE(BD), BSNL, BD Cell, Gujarat Circle, Ahmedabad
- ❖ Shri. Rakesh Mehta, SDE (NIB), BSNL, Bhadra Telephone Exchange, Ahmedabad

As on 31<sup>st</sup> March 2010, the Purchase Order was placed with BSNL for providing 10Mbps Internet connectivity to 185 universities on fibre. The ERNET was requested to continue providing Internet Bandwidth to all universities till April 30, 2010 and to 121 universities till May 30, 2010. It is expected that BSNL would connect all universities with 10 Mbps Internet Bandwidth by the end of May 2010. Fig. 12 shows proposed architecture for UGC-Infonet 2.0.

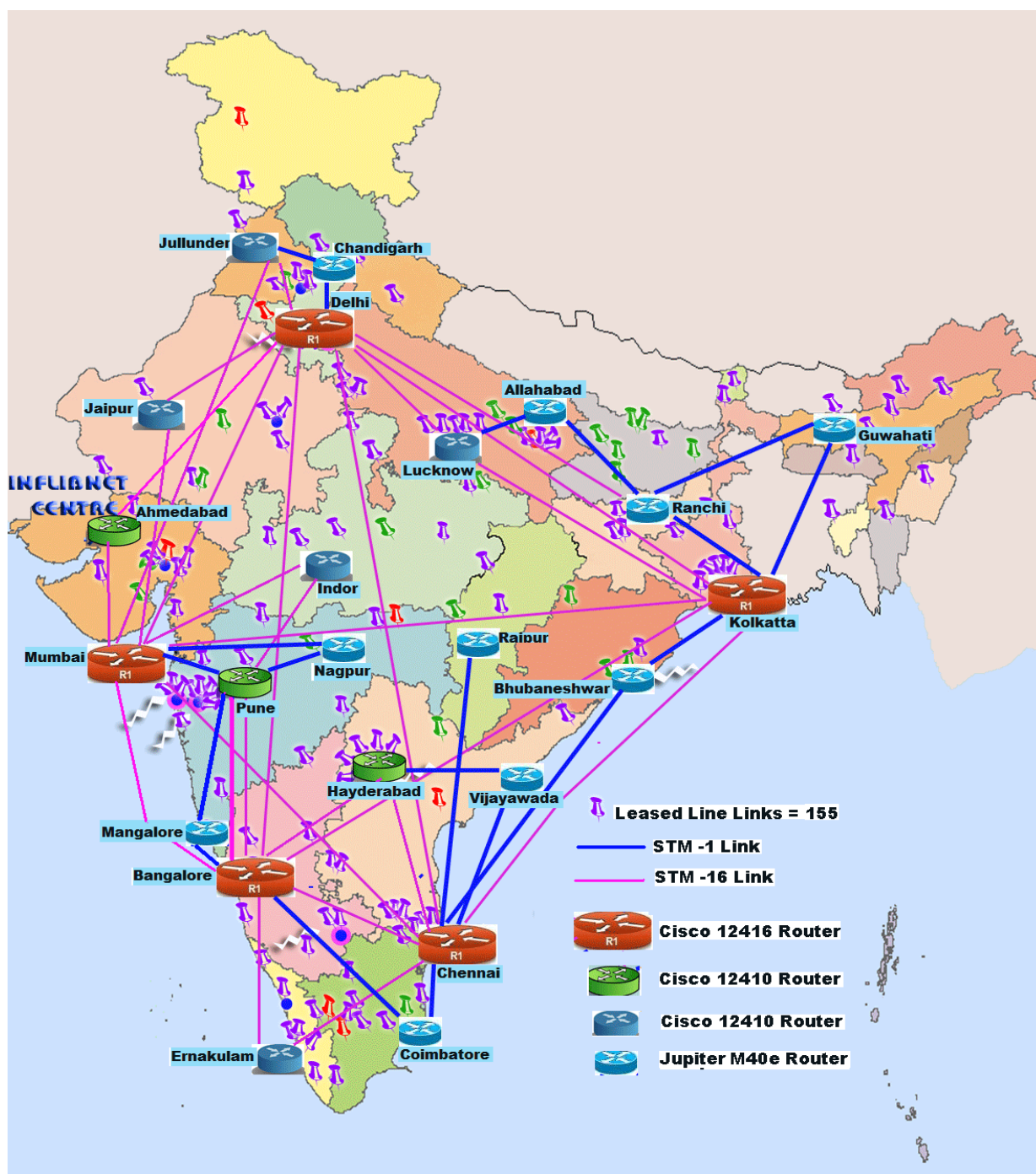


Fig.12: Proposed Architecture for UGC Infonet 2.0

#### 7.4. Web Services R & D Group

The Centre uses web technology to provide organized and structured access to its services and resources to the academic community through the Centre's Website. The Centre's Website is designed to work as an integrated interface for all services and resources accessible to the academic community in the universities and colleges. The Web



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Development Group has especially been set-up for designing innovative web-based interface for effective and efficient delivery of services using the latest web-based tools and technologies. The Group undertakes all activities related to selection, organisation and presentation of services and resources in a meaningful way for the benefit of the user community.

### **Technology Used**

**Development Tools:** PHP, HTML, DTML, JSP, JavaScript

**Database:** MySQL Server, Postgres SQL Server and MS SQL Server

**Operating Systems:** Red Hat Linux Enterprise Server 4.0, Fedora 8.0/9.0

**Open Source Software:** phpChat, MediaWiki, phpBB, Dspace and WordPress

The Centre maintains multiple and independent web sites for its various activities and services. The Web Development Group maintains the following web sites:

#### **7.4.1. INFLIBNET Centre's Main Website (<http://www.inflibnet.ac.in/>)**

*Sh. Ashok Kumar Rai, Scientist D (CS)*

The Centre maintains comprehensive Websites in English and Hindi. Several new additions were made to the new version of the Institute's website. A new technology called "Real Simple Syndication (RSS)" was introduced to facilitate users and bloggers to harvest recent updates from the Centre's web site. Web 2.0 features and functionalities, including Wiki, Blog, Chat and discussion Forum, RSS feed, etc. were incorporated in the new version of the Web site. The Intranet web site, developed during the year under report, was launched with fillable forms along with internal circulars, committees and their constitutions, Bye Laws, Memorandum of Association, etc.

The new website of the Centre has the following main features:

- ❖ Powerful search and browse interface
- ❖ Dynamic calendar
- ❖ Recent and new events
- ❖ Download forms and documents
- ❖ Online feedback mechanism
- ❖ Mailing list, video gallery, webmail, etc.
- ❖ Latest news, jobs, tenders, etc.
- ❖ Wiki, weblog, RSS feeds and online chat



Fig. 13: INFLIBNET's Web site in English and Hindi

#### 7.4.2. UGC-Infonet Digital Library Consortium (<http://www.inflibnetnet.ac.in/econ/>)

*Sh. Ashok Kumar Rai, Scientist D (CS)*

*Shri Dinesh Pradhan, STO – I (LS)*

*Ms. Kruti Trivedi, STA-II (LS)*

*Shri Saroja Kumar Panda, STA-II (LS)*

*Ms. Rachna Shelat, Project Officer (CS)*

A separate website is maintained for the UGC-Infonet Digital Library Consortium. The web site provides detailed information about the Consortium including:

- i. Search and browse interface for more than 5,500 journals covered under the Consortium;
- ii. Classified index to journals covered under the Consortium;
- iii. Search interface for member institutions (universities) and e-resources accessible to each one of them;
- iv. E-resources Access Management System (E-RAMS) designed to provide access to usage statistics to member universities and for monitoring their complaints;
- v. Detailed tutorials on each e-resource;
- vi. Licensing and fair use;

- vii. Associate membership programmes and information on how to join the Consortium;
- viii. Guidelines on UGC-Infonet Digital Library Consortium;
- ix. INTUTE Search interface so as to facilitate search on millions of e-resources under different subject Categories available over Internet in open access;
- x. Subject-wise list of e-journals subscribed under the Consortium; and
- xi. Dynamic creation of CSV file for download.

More details on the UGC-Infonet Digital Library Consortium is available at 7.5 in this report.

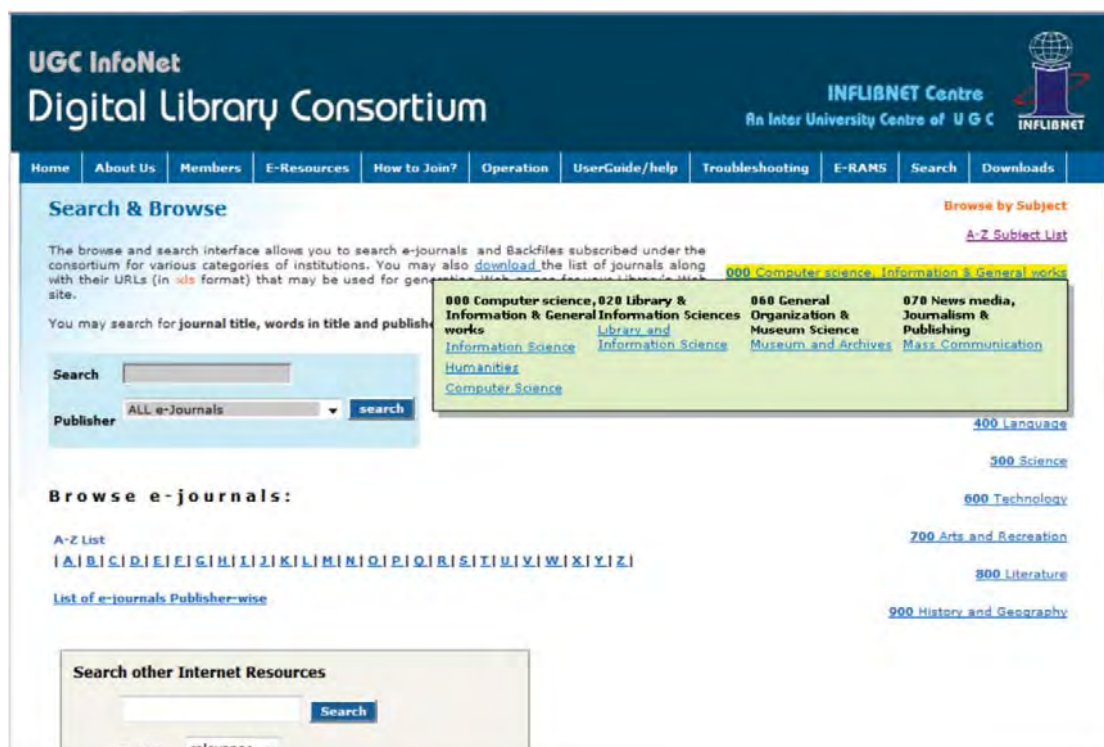


Fig. 14: Website of the UGC-Infonet Digital Library Consortium

#### 7.4.3. SOUL 2.0 (<http://www.inflibnet.ac.in/soul/>)

*Shri Ashok Kumar Rai, Scientist D (CS)*

*Shri Yatrik Patel, Scientist C (CS)*

*Ms. Nabila Shaikh, SOUL Technical Assistant (CS)*

A separate website is maintained for the SOUL 2.0. The web site provides detailed information about SOUL 2.0 including:

- ❖ About SOUL 2.0, its features and functionalities;

- ❖ Demo version of SOUL 2.0 with installation guide;
- ❖ SOUL 2.0 modules workflow;
- ❖ Online chat and feedback mechanism;
- ❖ FAQs / training programmes, etc.;
- ❖ Utilities and updates for SOUL users;
- ❖ Online SOUL2.0 Updates; and
- ❖ SOUL2.0 User Manual (PDF version).

More details on SOUL 2.0 is available at 7.2.1 in this report.



**Fig. 15: Website for SOUL 2.0**

#### **7.4.4 N-LIST (National Library and Information Services Infrastructure for Scholarly Content) (<http://nlist.inflibnet.ac.in>)**

*Dr. Jagdish Arora, Director*  
*Shri Ashok Kumar Rai, Scientist D (CS)*  
*Shri Dinesh Pradhan, STO – I (LS)*  
*Ms. Kruti Trivedi, STA-II (LS)*  
*Shri Saroja Kumar Panda, STA-II (LS)*  
*Ms. Rachna Shelat, Project Officer (CS)*

A separate website is maintained for the project entitled “National Library and Information Infrastructure for Scholarly Content (N-LIST)”, a joint project of the UGC-Inflibnet Digital Library Consortium, INFLIBNET Centre and INDEST-AICTE Consortium, IIT Delhi funded by the MHRD, Govt. of India under its National Mission on Education through ICT. The web site provides detailed information about the project including:

- ❖ Integration of Ezproxy for authentication and access to e-resources with N-LIST Website;
- ❖ Searchable interface for member colleges and e-resources (e-books and e-journals);
- ❖ Eligibility and current status of registered members;
- ❖ Online registration for colleges;
- ❖ E-resources subscribed for colleges as well as for technical institutions and universities under cross-subscription arrangements;
- ❖ User's guide and tutorials on e-resources subscribed for the colleges;
- ❖ A-Z list of members and e-resources;
- ❖ Publisher-wise list of e-resources;
- ❖ State-wise list of members;
- ❖ INTUTE search interface to search open access e-resources for the colleges; and
- ❖ Online feedback and Comment(s).

More details on N-LIST project is available at 14.1 in this report.

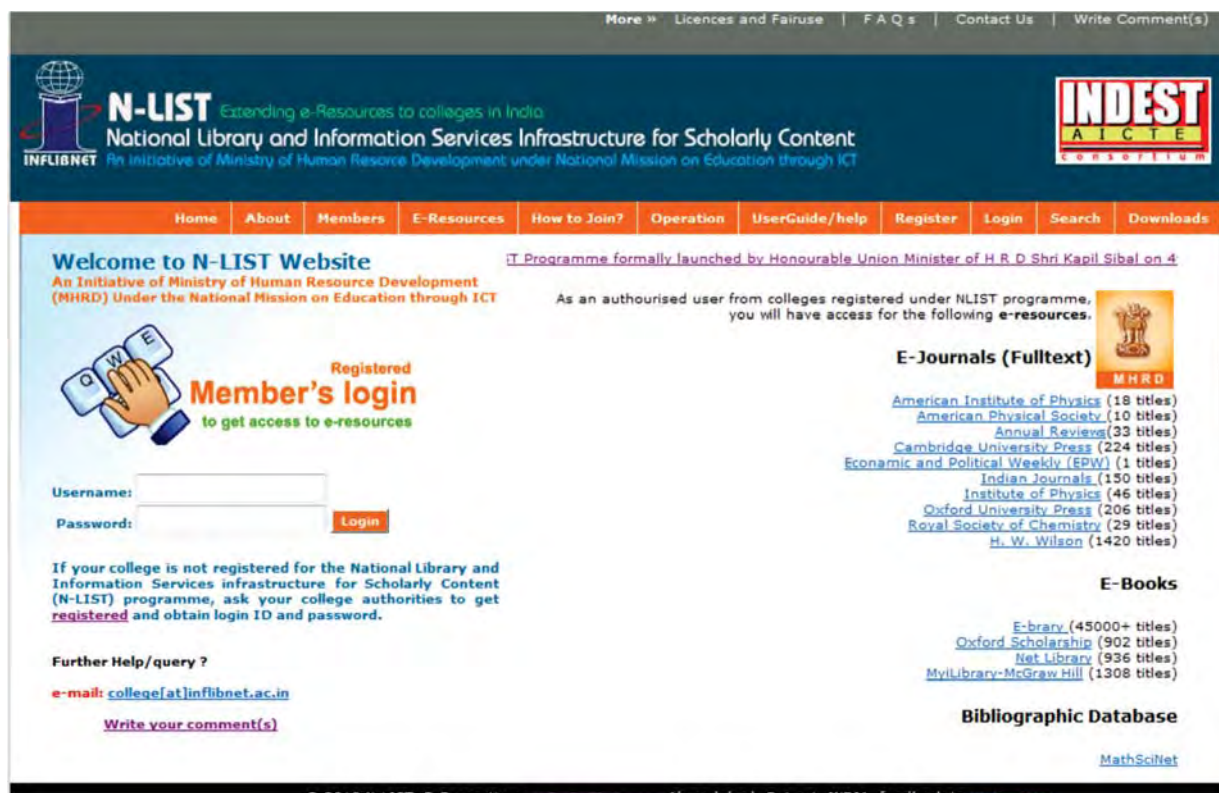


Fig.16: N-LIST Website



#### 7.4.5. Intranet (<http://192.168.1.72/>; for INFLIBNET Staff Only)

*Shri Ashok Kumar Rai, Scientist D (CS)*

*Shri Rajeev Kumar, Scientist B (CS)*

*Shri Rushi Bhatt, Project Assistant (CS)*

A separate Intranet website is maintained for the internal staff of the Centre. The web site provides detailed information including:

- ❖ Rules and regulations of the Centre;
- ❖ MoA;
- ❖ All circulars;
- ❖ All types of forms in fillable pdf format;
- ❖ Committees and their constitutions;
- ❖ Leave Information System;
- ❖ List of holidays; and
- ❖ Presentations.



**Fig.17: INTRANET Website**

#### 7.4.6. Implementation of Web 2.0 Technologies at the Centre

The INFLIBNET Centre has entered into the world of Web 2.0 and Library 2.0 with implementation of the following interactive and collaborative technological tools. All the Web 2.0 tools used are open source software:

##### 7.4.6.1. Instant Messaging (<http://www.inflibnet.ac.in/chat/>)

*Shri Ashok Kumar Rai, Scientist D (CS)*

The Centre is using online chat for providing technical support to users of SOUL software. The users of SOUL software can log on at <http://www.inflibnet.ac.in/chat> and enter into a chat session with dedicated and qualified team of professionals trained in SOUL software for resolving their problems in a real-time mode.

#### 7.4.6.2. Blogs (<http://www.inflibnet.ac.in/blog>)

*Shri Rajesh Chandrakar, Scientist B (LS)*

The INFLIBNET Centre has started its blog to encourage interactions amongst users and the INFLIBNET staff. The blog is also being used for promoting activities and services of the Centre. The blog has 78 postings with 322 comments as on March 31, 2010. It is being used extensively by the users and professionals.

#### 7.4.6.3. Wiki (<http://www.inflibnet.ac.in/wiki/>)

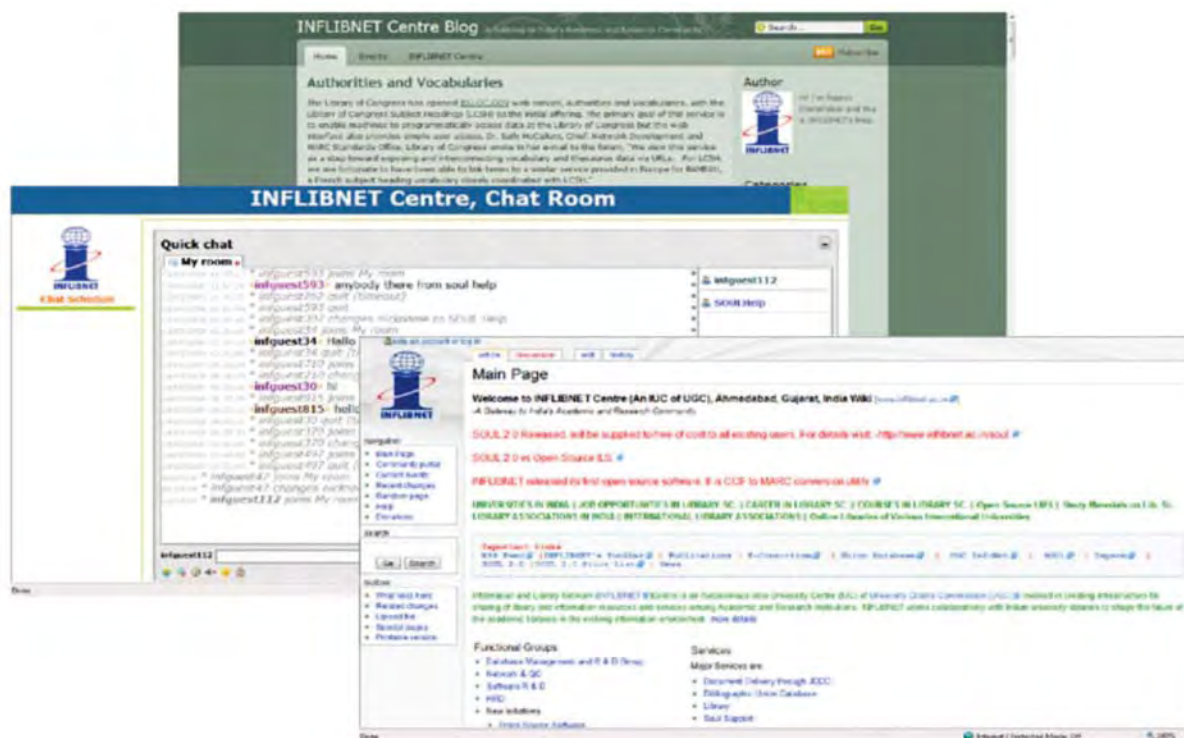
*Shri Rajeev Kumar, Scientist B (CS)*

The INFLIBNET Wiki provides detailed information on its activities, functions and services. Moreover, the users of the services of the Centre are also encouraged to contribute to the Wiki with their comments and suggestions on Centre's services and activities.

#### 7.4.6.4. Streaming Media and Social Network (<http://in.youtube.com/inflibnet>)

*Shri Rajesh Chandrakar, Scientist B (LS)*

The Centre uses "YouTube" to upload multimedia video files. All the events held at INFLIBNET Centre are recorded and the contents are uploaded on to the You Tube for the benefit of the users. The channel has 19 videos uploaded on different activities of the Centre that were viewed by around 10,000 users as on March 31, 2010.



**Fig. 18: Web 2.0 Technologies Websites**

#### 7.4.6.5. RSS Feeds Aggregation Service (<http://www.inflibnet.ac.in/feed/>)

*Shri Rajeev Kumar, Scientist B (CS)*

The Centre has developed and installed RSS Feed Aggregation Service on its website. The service is targeted to users of the UGC-Infonet Digital Library Consortium. The RSS Aggregation Service facilitates RSS links to open on the website of the Centre for all electronic journals that are covered in the Consortium and have option for RSS feeds. Resultantly, the users, instead of copying RSS feeds into their RSS Feed Readers, can visit the INFLIBNET website and read the current contents of all the journals subscribed under the UGC-Infonet Digital Library Consortium. These RSS Feeds are arranged according to subject categories as well as alphabetically. Moreover, journals covered under the RSS Feed Aggregation Services can also be searched according to the subject category and by words in journal titles. The RSS Feed Aggregation Service at the Centre provides for the following:

- ❖ INFLIBNET's News RSS;
- ❖ Search for RSS Feeds;
- ❖ Subject-wise / Publisher-wise RSS Feeds;
- ❖ My RSS: Select your own set of journals and get their RSS feeds;
- ❖ My Feed Reader; and
- ❖ Get Feed through SMS and Email.



**Fig.19: INFLIBNET's RSS Feed Aggregation Website**

#### 7.4.6.6. Library Toolbars

*Shri Abhishek Kumar, Scientist B (CS)*

The INFLIBNET has developed toolbar that facilitates easy access to e-resources, union databases, SOUL and other important links to the INFLIBNET's services and resources. After getting positive response from users, new version of the Toolbar 1.1 was released with enhanced features and functionalities. The list of the e-resources covered under the N-LIST project was also included along with Web single sign-on authentication technology.

#### 7.4.7. INFLIBNET's Institutional Repository (<http://ir.inflibnet.ac.in>)

*Shri Yatrik Patel, Scientist C (CS)*

*Shri Ashok Kumar Rai, Scientist D (CS)*

*Shri H G Hosamani, Scientist B (LS)*

*Mrs. Hema Cholin, STA-II (LS)*

The Institutional Repository (IR), set-up using Dspace software to host full-text of research articles of technical staff as well as other publications of the Centre, was maintained and populated with all the articles published in the proceedings of CALIBERs and PLANNERs. The Dspace, the open source digital library software developed by the Massachusetts Institute of Technology and HP, supports Open Archives Initiatives-Protocol for Metadata Harvesting (OAI-PMH), an internationally recognized protocol and interoperability standards. The IR @ INFLIBNET provides a platform for researchers in LIS to deposit, reuse and share their research publications. The repository also has the ability to capture, store and index, disseminate and preserve digital materials created in the Centre. Staff members can register themselves with the digital repository and submit their pre-prints (pre-refereed version of an article), post-prints (post-refereed final version) and publisher PDFs (if allowed by the publisher). The papers published in CALIBER and PLANNER proceedings have been uploaded in PDF format into the IR @ INFLIBNET. The INFLIBNET's Institutional Repository hosts 2340 articles as on 31<sup>st</sup> March, 2010 besides course materials, newspaper clippings, etc.



**Fig. 20: New XMLUI based INFLIBNET's Institutional Repository (IR) on Dspace**



#### 7.4.8. Open Journal System (OJS) @ INFLIBNET Centre (<http://www.inflibnet.ac.in/ojs/>)

*Shri Rajesh Chandrakar, Scientist B (LS)*

*Shri Ashok Kumar Rai, Scientist D (CS)*

The Centre has implemented and maintains a journal publishing system using open source software called Open Journal System (OJS) to facilitate publication of electronic journals in open access environment. The following two journals are hosted on OJS @ INFLIBNET platform:

- ❖ Journal of Literature, Culture and Media Studies
- ❖ Assam University Journal of Science and Technology

More details on OJS @INFLIBNET Centre is available at 7.6.2 in this report.



**Fig. 21: Open Journal System at INFLIBNET**

#### 7.5. E-Resource Management Group

*Dr. Jagdish Arora, Director*

*Sh. Ashok Kumar Rai, Scientist D (CS)*

*Sh. Dinesh Kumar Pradhan, STO-I (LS)*

*Ms. Kruti Trivedi, STA-II (LS)*

*Sh. Saroj Kumar Panda, STA-II (LS)*

*Ms. Rachna Shelat, Project Officer (CS)*

The UGC-Infonet Digital Library Consortium was formally launched in December 2003 by Honourable Dr. A P J Abdul Kalam, the Former President of India, soon after providing the Internet connectivity to the universities in the year 2003 under the UGC-Infonet Connectivity



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Programme. The Consortium proved to be a saviour for university libraries which have been discontinuing subscription of scholarly journals because of “serials crisis” that refers to exponential and continuing increase in subscription cost of scholarly journals. The crisis is a result of rise in cost of journals much faster than the rate of inflation, increase in number of journals and the paucity of funds available to the libraries.

The UGC-Infonet Digital Library Consortium provides current as well as archival access to more than 5,500+ core and peer-reviewed journals and eleven bibliographic databases from 25 publishers including commercial publishers, scholarly societies, university presses and aggregators in different disciplines. So far 160 Universities that come under the purview of UGC, are being provided differential access to subscribed e-resources including all the IUCs of UGC. These e-resources cover almost all subject disciplines including arts, humanities, social sciences, physical sciences, chemical sciences, life sciences, computer sciences, mathematics and statistics, etc. The programme is wholly funded by the UGC and executed by the INFLIBNET Centre.

The Consortium has also launched its “Associate Membership Programme” wherein private universities and other research organizations are welcomed to join the Consortium for selected e-resources.

The benefit of subscription to e-resources is also being extended to the colleges through the project entitled “National Library and Information Services Infrastructure for Scholarly Content (N-LIST)”, jointly executed by the UGC-INFONET Digital Library Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium, IIT Delhi and funded by the MHRD.

### **7.5.1. Objectives**

The major aims and objectives of the UGC-Infonet Digital Library Consortium are as follows:

- i) to subscribe electronic resources for the universities at a highly discounted rates of subscription under the best terms and conditions;
- ii) to extend the benefits of consortium-based subscription to all Indian universities and colleges;
- iii) to extend the benefits of consortium to associate members of the Consortium;
- iv) to impart training to the users, librarians, research scholars and faculty members of the institutions on the use of electronic resources with an aim to optimize their usage;
- v) to promote increased interaction amongst the member libraries;
- vi) to increase the research productivity of the institutions both in terms of quality and quantity of publications;

- vii) to evaluate the usage of resources subscribed; and
- viii) to identify new resources that are required to be subscribed under the programme based on the availability of resources and funds.

## **7.5.2. Governance of UGC-Infonet Digital Library Consortium**

### **7.5.2.1. National Steering Committee**

The UGC-INFONET Digital Library Consortium is operated by the Centre under the guidance of a National Steering Committee (NSC). The NSC is responsible for operational aspects of the Consortium. The Committee decides on e-resources to be subscribed from various publishers and its numbers along with names of the beneficiary universities. The NSC was also responsible for negotiating the subscription rates of e-resources in its formative years. The current composition of the NSC is given in Appendix XI.

### **7.5.2.2. Negotiation Committee**

The Negotiation Committee is constituted as per UGC Guidelines on UGC-Infonet Digital Library Consortium for negotiating the subscription rates of e-resources. The current composition of the Negotiation Committee is given in the Appendix XII.

### **7.5.3. Current Status**

The Consortium offers current as well as archival access to more than 5,500 peer reviewed electronic journals and eleven bibliographic databases from 25 major publishers and aggregators. The access to the journals covers current issues along with back files for more than 10 years (since 1997 in most cases) and volume 1 onwards in some cases (American Chemical Society, Institute of Physics and JSTOR). The service is offered to 160 universities covered under phase I, II and III. The details of subscribed e-resources are provided in Appendix-XIII.

The subscription to JCCC (J-gate Custom Content for Consortium), customised for the UGC-Infonet Digital Library Consortium was started in 2008. The JCCC provides article level access to e-journals subscribed under the Consortium as well as e-resources subscribed by 22 university libraries designated as ILL Centres. JCCC acts as a gateway to search 10,000+ journals including 3,100 open access journals and 5500+ journals subscribed by the consortium. The JCCC interface facilitates triggering of e-mail requests for articles that are not accessible online and are available only in universities designated as ILL Centres.

During the period under report, 1720 ILL requests were generated and 1216 requests were fulfilled.

### 7.5.3.1. User Awareness Programmes

The Centre conducts user awareness programmes in universities to promote usage of e-resources. During this period under report, 6 user awareness programmes were organized at different universities as mentioned in table below:

Sl. No.	Name of the University	Date
1	Cochin University of Science and Technology (CUSAT)	April 21, 2009
2	Osmania University, Hyderabad	June 22-23, 2009
3	Mumbai University, Mumbai	September 22-23, 2009
4	Gujarat University, Ahmedabad	November 25, 2009
5	North Gujarat University, Patan	November 26, 2009
6	Bhavnagar University, Patan	March 5, 2010

**Table 12: Users Awareness Programmes on Access to E-Resources at Universities**

### 7.5.3.2. Associate Membership Programme

The resources subscribed under the UGC-INFONET Digital Library Consortium are available on subscription to private universities and other institutions under the “Associate Membership Programme”. Under the programme, private universities and other research institutions can enrol themselves as “Associate member” and subscribe to resources of their choice available under the Consortium. The rates of subscription are same as is applicable to Consortium for its core members. Associate members are charged an annual membership of Rs. 5,000.00. The subscription to e-resources is subject to the approval of respective publishers. As on March 31, 2010, more than 65 members have enrolled themselves as associate members of the Consortium.

### 7.5.4. Usage of E-Resources

Most publishers maintain detailed usage statistics of resources made accessible to member universities by them. The publishers provide username and password for accessing the usage statistics for their resources for monitoring purposes. Most publishers provide COUNTER-compliant usage statistics, which is an International standard for comparison of usage of e-resources accessible through various platforms. The usage statistics from various publishers' website are downloaded on regular intervals and made accessible to the member universities on INFLIBNET website through an interface called e-RAMS (Electronic Resources Access Management System). Universities with low usage of e-resources were requested to optimize their usage.

The comparative usage of various resources through 2005 to 2009 is given below in Table 13 and its pictorial depiction is shown in Fig.22. The graph clearly shows that there is an increase in the usage of all the resources over the years.

**Fig. 22: Publisher-wise Usage of Resources from 2005 to 2009**

The Table 13 reflects consistent increase in usage from 2005 to 2009 for all e-resources. The average increase in usage from 2005 to 2009 is 61.80%.

Sl. No.	Publishers	2005	2006	2007	2008	2009	Volume of Increase in Usage			
							2006	2007	2008	2009
1	ACS	422816	478140	560506	594960	1031237	13.08	17.23	6.15	73.33
2	AIP/APS	243856	292884	302270	336234	419658	20.11	3.20	11.24	24.81
3	AR	56504	76492	81533	62528	76731	35.37	6.59	-23.31	22.71
4	Blackwell	116473	174081	278690	121077	178869	49.46	60.09	-56.55	47.73
5	CUP	21321	23388	49304	66745	72972	9.69	110.81	35.37	9.33
6	Cell Press	89585	72964	95770	155931	165029	-18.55	31.26	62.82	5.83
7	Emerald	18106	38995	48776	43480	69363	115.37	25.08	-10.86	59.53
8	IOP	81071	124949	134241	168213	232573	54.12	7.44	25.31	38.26
9	JSTOR	53924	121745	616560	1382961	1566952	125.77	406.44	124.30	13.30
10	Nature	48499	42839	42894	47996	79456	-11.67	0.13	11.89	65.55
11	OUP	158096	205226	171952	198760	208692	29.81	-16.21	15.59	5.00
12	Project Muse	51709	46699	46140	89975	89175	-9.69	-1.20	95.00	-0.89
13	Portland	13301	12792	13706	13617	22294	-3.83	7.15	-0.65	63.72
14	RSC	41786	88174	134121	178676	185985	111.01	52.11	33.22	4.09
15	SpringerLink	190831	273319	443024	977395	1397193	43.23	62.09	120.62	42.95
16	T & F	145958	201478	134141	247849	293286	38.04	-33.42	84.77	18.33
17	Project Euclid			429	551	2124	NA	NA	28.44	285.48
18	SIAM	NS	NS	NS	828	1922	NA	NA	NA	132.13
19	JCCC	NS	NS	NS	308569	881307	NA	NA	NA	185.61
20	MathSci	NS	NS	NS	83620	125778	NA	NA	NA	50.42
21	SciFinder	96253	89240	NA	253890	292099	-7.29	NA	NA	15.05
		1753836	2274165	3153628	4686397	6089465	29.67	38.67	48.60	29.94
Average increase in download										61.80

**Table 13: Publisher-wise Usage from 2005 to 2009**

## 7.5.5. Economics of UGC-Infonet Digital Library Consortium

### 7.5.5.1. Annual Increase in Rates of Subscription

In general, there is an annual increase of 10% to 15% on subscription rate of resources. However, Consortium has negotiated the rates of increase in price of e-resources and fixed price cap of 4-5% annually.

### 7.5.5.2. Intensity of Usage: Cost Recovery

“Cost Recovery” and “Average cost of article per download” can be used effectively to judge cost-effectiveness of e-resources. These two factors reflect the intensity and frequency of usage of e-resources by member institutions in a Consortium.

The cost recovery factor is calculated by multiplying number of articles downloaded with the cost of a single article, as if it is purchased directly from the publishers in the pay-per-view model or brought through ILL from any document delivery service. According to ALPSP survey, 78% of publishers surveyed offer pay-per-view or individual article purchase options. In the pay-per-view model the cost of articles varies from publisher to publisher and average cost is \$30 per article. Assuming that if the electronic resources were not available through the Consortium, articles downloaded from these resources by the member universities would have been sourced on inter-library loan / document delivery service at a cost of US \$15.00 per article (Average cost of article taken from a study conducted by the American Research Libraries).

The cost recovery factor for each publisher is depicted in Figure 23 and the cost recovery factor for all resources is depicted in Figure 24. It may be noted that the cost recovery factor for JSTOR is highest followed by Springer & ACS while cost recovery factor for SIAM is lowest followed by the Project Euclid.

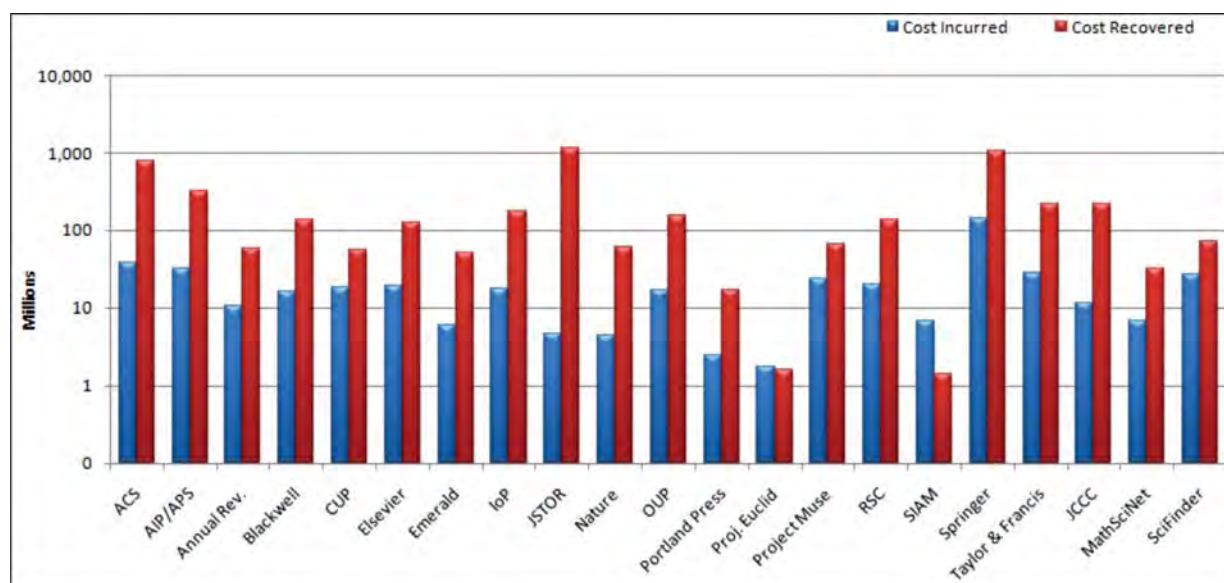


Fig. 23: Publisher-wise Cost Recovery during 2009



According to the Figure 25, the cost of total articles downloaded by the member libraries is Rs. 4570 million as compared to the total expenditure of Rs. 410 millions on subscription to e-resources for the year 2009. The member libraries of the Consortium, therefore, downloaded articles worth of Rs. 4160 millions in excess.

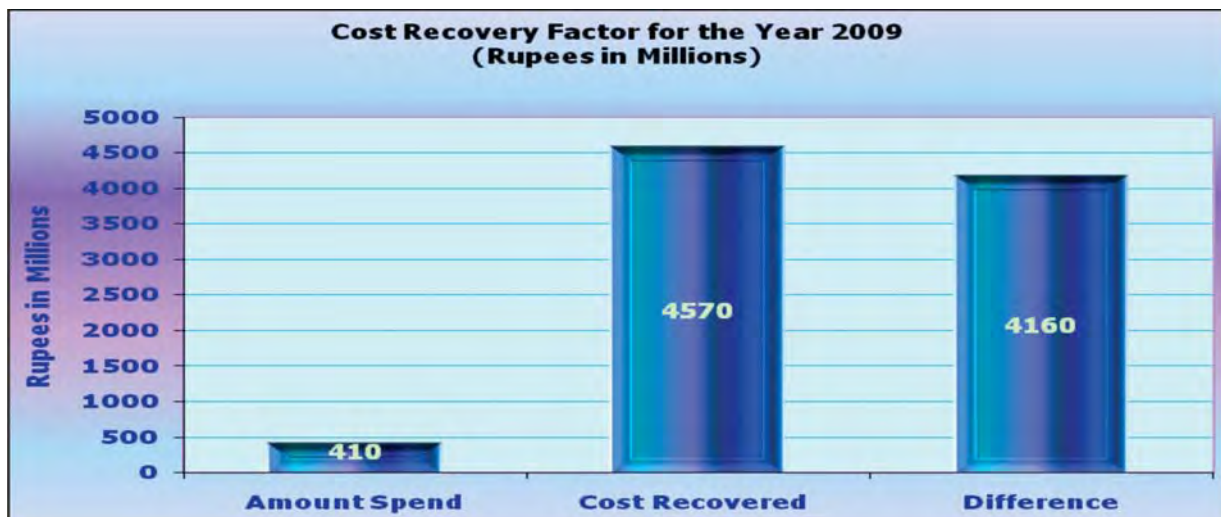


Fig. 24: Cost recovery Factor for the Year 2009

### 7.5.5.3. Average Cost of an Article / Bibliographic Record

The average cost per download represents average cost of each access event (download) i.e. full-text article and is calculated by dividing subscription cost of a resource by the number of articles downloaded.

Table 14 and Fig. 25, given below, provide the cost per download of an article. The cost per download is lowest for JSTOR (Rs. 2.93) and highest for SIAM (Rs. 3578.02), whereas the Consortium average is Rs. 65.35.

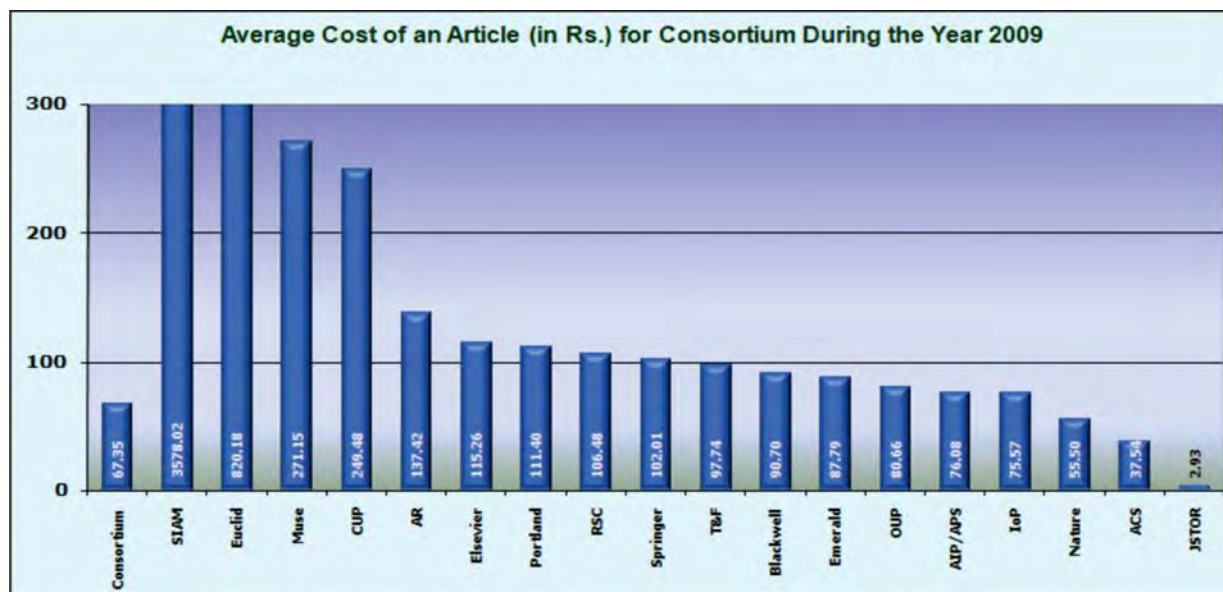


Fig. 25: Average Cost of an Article (in ' ) for Consortium during the Year 2009

<b>E-Resource</b>	<b>Average cost per Download (in ₹)</b>
JSTOR	2.93
ACS	37.54
Nature	55.50
Institute of Physics	75.57
AIP/APS	76.08
OUP	80.66
Emerald	87.79
Blackwell	90.70
Taylor & Francis	97.74
Springer	102.01
RSC	106.48
Portland Press	111.40
Elsevier's Cell Press	115.26
Annual Review	137.42
CUP	249.48
Project Muse	271.15
Project Euclid	820.18
SIAM	3578.02
Average cost	67.35

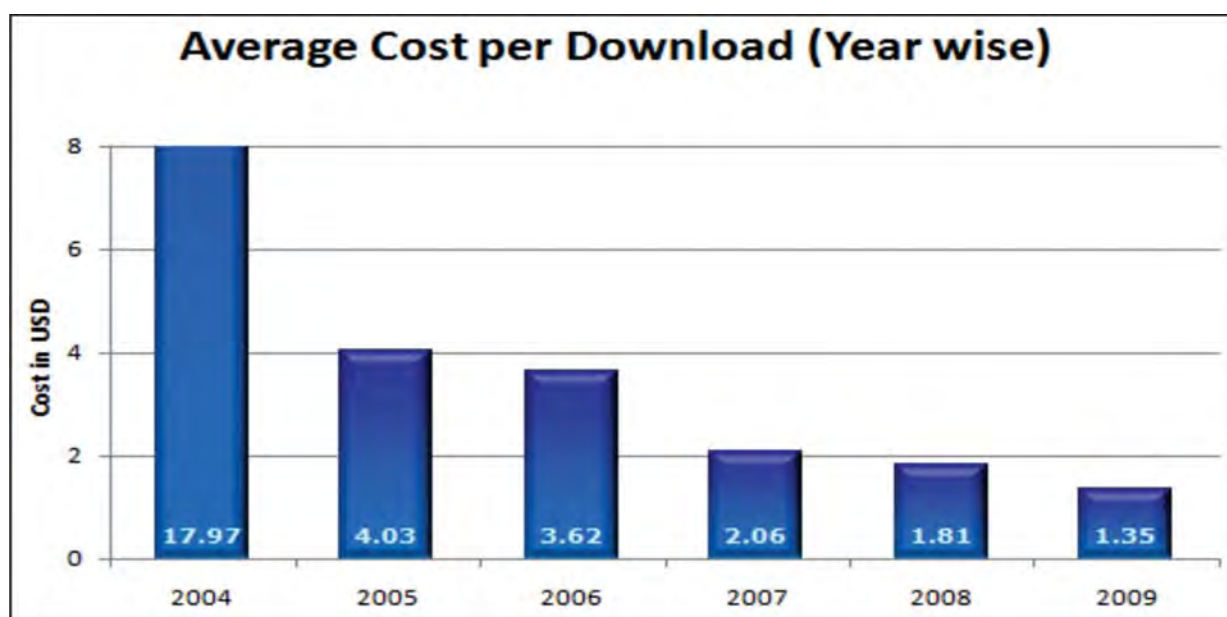
**Table 14: Publisher-wise Average Cost of an Article**

Table 15 provides average cost of a search for bibliographic database.

<b>Bibliographic Database</b>	<b>Average Cost per Search (in ₹)</b>
JCCC	12.78
MathSciNet	55.74
SciFinder Scholar	92.47
Average cost	37.49

**Table 15: Average Cost per search for Bibliographic Databases**

Over the last few years, average cost of an article has come down due to increase in usage of resources. The Fig. 26 below reveals that the average cost of articles for e-journals has decreased over the period from 2005 to 2009.



**Fig.26: Average Cost per Article for the E-journals Over the Period 2005 to 2009**

### 7.5.6. Access to E-Resources for Walk-in Users

The Walk-in-Users facility at the Centre hosts 10 Internet-enabled PCs dedicated to the walk-in users for accessing electronic resources subscribed under the UGC-Infonet Digital Library Consortium. The license agreements signed with the publishers of e-resources provide for access to e-resources to the “walk-in” users at the Centre. The walk-in users include students and researchers from Gujarat University, its affiliated colleges and students from nearby universities and colleges. During the financial year 2009 – 2010, a total of 597 users visited the Centre with an average of 50 users per month.

Table 16 gives details of usage of different e-resources by walk-in users:

Publisher	Jan 2009	Feb 2009	Mar 2009	Apr 2009	May 2009	June 2009	Jul 2009	Aug 2009	Sep 2009	Oct 2009	Nov 2009	Dec 2009	YTD Total
ACS	1204	1434	1036	877	1429	1063	1677	868	809	483	896	1042	12818
AIP/APS	21	5	42	31	82	70	39	4	1	30	120	5	450
Annual Reviews	10	7	36	11	5	5	10	22	3	9	23	18	159
CUP	34	49	53	80	30	16	0	0	16	0	1	0	279
Cell Press	4	39	26	15	26	20	111	26	37	53	29	20	406
IOP	21	18	10	44	27	36	8	18	7	11	53	7	260
JCCC	517	376	840	1110	1477	1010	1359	1541	795	1029	804	795	11653
JSTOR	360	331	433	410	391	324	217	1729	1384	1727	1090	1026	9422

Publisher	Jan 2009	Feb 2009	Mar 2009	Apr 2009	May 2009	June 2009	Jul 2009	Aug 2009	Sep 2009	Oct 2009	Nov 2009	Dec 2009	YTD Total
MathSciNet	4	3	0	4	1	0	1	4	0	0	0	0	17
Nature	0	0	0	0	0	0	0	0	0	52	27	13	92
OUP	25	57	59	125	54	21	25	102	162	20	96	53	799
Project Euclid	0	0	0	0	3	0	0	1	0	0	0	0	4
RSC	77	109	75	102	195	184	202	121	141	68	93	147	1514
Springer	551	764	673	634	1202	822	479	1216	624	305	755	330	8355
Taylor & Francis	0	0	11	0	0	2	0	4	2	2	1	0	22

**Table 16: Usage Statistics of the E-resources of Different Publishers at the Centre**

## 7.6. Open Access R & D Group

The current system of scholarly communication inhibit rather than promote access to scholarly information at a time when technology can enable vast improvement in access, speed of publication and saving in the cost of publication. The present model of publishing is essentially a monopoly of publishers that is driven by the need to publish rather than the need for more information. The open access has emerged as a promising alternative to the current model of scholarly publishing that provides free access to scientific information to its users. The open access publishing model offers full-text of journals free of charge to a user through well-organized and professionally managed web interfaces. The essential premise of the open access movement is that the scientific community and society in general benefits from the open exchange of ideas and information unaffected unencumbered from the limitations of subscription costs, licensing arrangements and copyright inherent to the traditional model of commercial journal publishing. Open access journals and institutional repositories are two routes of open access publishing system.

Open-access journals, considered as “golden route”, for providing access to peer-reviewed journal literature in electronic format free-of-charge without any restriction of access. Institutional repositories, considered “green route” to open access publishing, are being set-up in research institutions with anticipation that the faculty and researchers would submit their preprints or post-prints of articles that are either accepted for publication or already published in traditional printed journals.

The Open Access R & D Group at the INFLIBNET Centre is working in the area of development on open access. The Centre has started following two initiatives during the period under report:

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### 7.6.1. Sodhganga: A Reservoir of Indian Electronic Theses and Dissertations

*Shri Manoj Kumar K, Scientist D (CS)*

*Shri Ashok Kumar Rai, Scientist D (CS)*

*Shri Yatrik Patel, Scientist C (CS)*

*Shri Rajesh Chandrakar, Scientist B (CS)*

*Shri Ramiz Malik, Project Officer (CS)*

*Ms.Daksha Halpati, Project Associate (CS)*

*Ms.Leena J. Parmar, Project Assistant (CS)*

Electronic Theses and Dissertations (ETD) are known to be the rich and unique source of information, often the only source for research work that does not find its way into various publication channels. However, theses and dissertations remain an un-tapped and under-utilized asset, leading to unnecessary duplication and repetition that, in effect, is the anti-theses of research and wastage of huge resources, both human and financial.

The “Shodhganga” is a Digital Repository set-up for submission of electronic version of theses and dissertations by students / research scholars in universities in India for making them available in open access to the world-wide academic community. The Repository was set-up in response to the UGC Notification (Minimum Standards & Procedure for Award of M.Phil. / Ph.D Degree, Regulation, 2009) where-in the responsibility of maintaining the digital repository of Electronic Theses and Dissertations (ETDs) is assigned to INFLIBNET Centre, Ahmedabad. Based on the recommendations of the National Committee for Implementation of Submission and Access Electronic Theses and Dissertations in Universities in India, constituted by the INFLIBNET Centre, work-flow, structure, data format, submission process, etc. were finalized. The Centre has modified ingestion interface of open source institutional repository software for meeting the specific requirement of Shodhganga. The Shodhganga Website provides all information relevant to the students, research supervisors and university authorities with regard to ETDs including their responsibilities, access policies, submission process, metadata structure, etc. An MoU to be signed between universities and INFLIBNET Centre is being sent to the universities for granting non-exclusive rights to host the content in the Sodhganga Repository as well as for getting financial assistance towards digitization of backfiles of theses /dissertations in universities.

Students from different universities have started submitting electronic version of their theses into the repository on voluntary basis. So far, five universities have submitted their theses without formal MoU. MG University is the first University to sign the MoU with INFLIBNET Centre. The MG University has already given electronic version of their 550 theses for hosting them into the Sodhganga.



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#### 7.6.1.1. Interface for Ingestion of Thesis in ShodhGanga

*Shri Yatrik Patel, Scientist C (CS)*

*Shri Swapnil Patel, Project Officer (CS)*

*Ms. Daksha Halpati, Project Associate (CS)*

The Group was involved in customization of DSpace software that is used for setting up the ShodhGanga digital repository suitable for submission of thesis and dissertation. Moreover, Software R & D Group has completely customized ingestion process of DSpace that is simple to use and involves less number of steps. Main Features of customized ingestion interface are:

- ❖ Separate Logins for Administrator, University Representative and Users
- ❖ Self-Registration module for user
- ❖ Simple ingestion workflow
- ❖ E-mail based alerts and notification on all workflow stages
- ❖ Theses can be submitted by User, University Representative or Research Supervisor.
- ❖ Adheres to global metadata standards.

**Technologies:** Java, JSP, Apache Tomcat 6.0, PostgreSQL

As on 31<sup>st</sup> March 2010, 30 full-text electronic theses were uploaded to the web site.

#### 7.6.2. Open Journals System @ INFLIBNET Centre

*Shri Rajesh Chandrakar, Scientist B (LS)*

*Shri Mohit Kumar Dabas, Project Assistant (CS)*

The INFLIBNET Centre has installed and configured Open Journal System (OJS), an open source solution developed by the Public Knowledge Project (PKP), on servers at INFLIBNET to facilitate hosting of electronic version of journals into open access mode with all processes of submission, peer-reviewing, editing, layout designing and publishing built into it. The initiative, named “OJS@INFLIBNET”, encourages universities and institutions that are publishing journals in print format to use the OJS @INFLIBNET for hosting electronic version of their journals free-of-cost on servers at the INFLIBNET Centre. The initiative also encourages faculty in universities to start their own open access journals using the platform offered by the INFLIBNET Centre. Currently Open Journal System @ INFLIBNET hosts two journals namely “Journal of Literature, Culture and Media Studies” published by Prof. N D R Chandra, Head, Department of English, Nagaland Central University and “Assam University Journal of Science & Technology” in two parts, namely, “Biological and Environmental Sciences” and “Physical Sciences and Technology” published by Assam University Press, Silchar under the editorial guidance of Prof. G D Sharma, Dean, School of Life Sciences, Assam University, Silchar. The Centre has received a few more requests from faculty in universities. These journals are being assessed for their quality.

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## 7.7. Open Source Software R&D Group

The Centre has taken a cautious decision to move all its crucial operations to open source software. To begin with, Open Office was implemented in place of MS Office in the Centre. Open Source Laboratory was set-up at the Centre with PCs loaded with different versions of LINUX operating systems including Redhat, Fedora, Ubuntu, etc and Library Management Software like NewGenLib and Koha were installed on these machines. DSpace, EPrint Archives and Greenstone Digital Library Software are also installed for testing and developing digital library for various applications in the Centre. All the union databases of the INFLIBNET Centre that were earlier hosted on MS-SQL have been moved to MySQL, an open source relational database management software. All the websites of the INFLIBNET Centre including consortium, INFONET, SOUL, Union databases, N-LIST, OJS, etc. are designed using open source software such as Apache, MySQL, Tomcat, PHP, Java Script, PERL, etc. “Shodhganga”, a reservoir of electronic theses and dissertations is setup using DSpace. The ingestion interface of shodhganga was developed seperatly using open source tools to facilitate online submission of electronic thesis to the repository.

The Centre’s Website offers RSS Feed Aggregation services implemented on PHP and MySQL. Mailing list is managed by the MailMan, an open source software application. Various open source Web 2.0 tools are implemented such as INFLIBNET Blog using WordPress, INFLIBNET Wiki on MediaWiki, INFLIBNET Chat on PHPChat, etc. to facilitate better interaction and collaboration between users and staff of the INFLIBNET Centre. Open source PHPBB is setup for INFLIBNET Bulletin Board. Apart from implementing various open source software, the Centre has also contributed following utilities to the open source community:

### 7.7.1. CCF to MARC21 Conversion Utility

*Shri Yatrik Patel, Scientist C (CS)*

*Shri Rajesh Chandrakar, Scientist B (LS)*

*Shri Dinesh Rayka, Project Officer (CS)*

CCF to MARC 21 conversion utility was developed and contributed as an open source software to facilitate conversion of CCF to MARC 21 format for the benefit of libraries that acquire MARC 21 compliant Library Management Software. Using this application, libraries can migrate CCF based records into MARC21 format, that, can be transported to any MARC21-compliant Library Management Software. The software is available for download from <http://ccftomarcconver.sourceforge.net/>

**Technologies:** Visual Studio .Net,

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### 7.7.2. Excel to MARCXML Conversion Utility

*Shri Yatrik Patel, Scientist C (CS)*

*Shri Dinesh Rayka, Project Officer (CS)*

*Shri Divyakant Vaghela, Project Officer (CS)*

*Shri Ankur Parikh, Clerk-cum-Typist*

The Software R & D Group with help of Shri Ankur Parikh, Clerk-cum-Typist at the INFLIBNET Centre has developed an open source tool for converting Excel data into MARCXML. The Centre receives bibliographic records of library resources from universities in different file formats for its union catalogue including Excel format. For converting the Excel data into MARC format for the union database or SOUL 2.0, records in Excel format has to be migrated into MARC or MARCXML format. For converting the Excel data into MARC or MARCXML format, a number of steps had to be performed which is time-consuming and less accurate. The newly developed utility is instrumental in by-passing these steps and converting data into MARCXML. Once the data is converted in MARCXML, the bibliographic records can easily be loaded into the SOUL2.0 without any data loss. While using this conversion tool, following cautions have to be observed:

- ❖ Single record can have 30 data elements including fields and subfields with repeatable values for fields and subfields;
- ❖ Pre-defined leader for books, serials and theses are given;
- ❖ Application has built-in pre-defined fixed fields such as 001, 002, 003, 006, 007, and 008 to comply with MARC standard;
- ❖ Rendering of data fields must be according to the AACR2 convention or definition of MARC21 tags;
- ❖ Conversion of records can be done for chosen numbers instead of complete collection (number of rows in Excel file); and
- ❖ Chosen number of data fields and subfields (number of columns in Excel file) can be selected for converting the records instead of having all 30 data elements.

The conversion tool is made available for download under the open source copyright act at sourceforge website: <http://excel2marcxml.sourceforge.net/>.

**Technologies:** Visual Studio .Net

### 7.8. E-Resources Access Management

*Shri Yatrik Patel, Scientist C (CS)*

*Shri Ashok Kumar Rai, Scientist D (CS)*

*Dr. Jagdish Arora, Director*

The INFLIBNET Centre, as one of its core mandates, provides access to scholarly e-resources to universities in India under the UGC-INFONET Digital Library Consortium. The Centre is keen to optimize the utilization of e-resources so as to ensure better Returns on

Investments (RoI) and greater benefits to the academic community. At present, access to e-resources in universities is IP-enabled and, as such, it is restricted within the confine of a given university campus. The Centre is working towards deploying appropriate access management tools for enabling users to access e-resources from his / her campuses, home and even while travelling. Implementation of such a solution requires setting-up of proper user authentication and access control mechanism ensuring trust relationship between publisher, identity providing agency and the user institution. The Centre is working towards implementation of Shibboleth for providing off-campus access to e-resources to universities.

Currently, a dedicated team of scientists are working on a middleware open source technology called “Shibboleth”. The Shibboleth is standard-based open source middleware software that provides Web single sign-on (SSO) access to subscribed e-resources across or within organizational boundaries. It allows web sites to make informed authorization decisions for individual access to protected online resources in a privacy-preserving manner. Using this technology, user can access designated electronic resources while being on-campus and off-campus.

Shibboleth software implements widely used federated identity standards, i.e. Security Assertion Markup Language (SAML), to provide a federated Web SSO and attribute exchange framework. Shibboleth also provides extended privacy functionality allowing users and their home site to control the attributes released to each application. Using Shibboleth-enabled access simplifies management of identity and permissions for organizations supporting users and applications. Shibboleth is developed in an open and participatory environment as free management tool.

In addition to providing Web SSO functionality, Shibboleth helps in controlling the access to e-resources on-campus and off the campus. While working with identity management system, the Shibboleth releases information for which service provider (Publisher) authorizes access. This reduces the need for developers to have access to the directory and instead provides fresh data, just-in-time.

The Shibboleth working architecture requires each participating institutions to set-up their own service identity provider (IDP). Looking at the present scenario, universities and colleges do not have requisite technical know-how and ICT infrastructure, as such, the INFLIBNET has decided to act as an IDP for all the institutions, including universities and colleges under its umbrella. The implementation of Shibboleth technology at INFLIBNET Centre would function in the following manner:

- ❖ The service providers (publisher) will recognize INFLIBNET Centre as a trusted organization for authenticating the user and give an option on their Web sites to select INFLIBNET as an IDP.
- ❖ When a user chooses INFLIBNET Consortium, he / she may be re-directed to IDP link at INFLIBNET Server.

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- ❖ After verifying user's credentials, IDP at INFLIBNET will pass "user attributes" which also carries user's institute, department and role as faculty/student/researcher, once authenticated, user gets access to his / her authorised e-resources and unauthenticated users are denied access.

To provide above functionalities, the Shibboleth has been customised and enhanced with following functionalities:

- i. **Authentication Mechanism and Attribute Release:** Default authentication and attribute release mechanism of Shibboleth is based on LDAP through JAAS (Java(TM) Authentication and Authorization Service). Keeping in view the present context, it is difficult to manage and interface LDAP for all member institutions; therefore, this mechanism has been customised to work with RDBMS-based member profiles. For implementing it, a separate RDBMS based JAAS routine was induced to match authentication from RDBMS-based data while mapping the attributes stored in RDBMS to its corresponding LDAP based attributes.
- ii. **User Creation and Management Interface:** The default installation of Shibboleth doesn't provide user creation and management interface because it has originally been designed to take data from LDAP based directories residing in member institutions. The Centre has developed user creation and self-registration interface facilitating member institutions to create new users and manage user database. The interface uses Java, JSP over Tomcat with Postgresql as backend.
- iii. **Implementation of Shibboleth-based Authentication into EZProxy:** Presently, the Centre is using EZProxy for extending access to resources under N-LIST Programme. Considering the fact that some of the e-resources subscribed by the UGC-Infonet Digital Library Consortium and N-LIST are not Shibboleth compliant, the Centre has induced Shibboleth into EZproxy by overriding native authentication mechanism of EZproxy. In this scenario, EZproxy will hand-off authentication task to Shibboleth if the resource is Shibboleth-compliant, and all non-Shibboleth compliant resources will be proxied through EZ Proxy in the usual course.

All technologies described above have been tested with Shibboleth test site and IDP service has been tested with one publisher. Proposal for setting up INFLIBNET Access Management Federation (INFED) is being submitted to the Governing Board for its approval.



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## 7.9. Bibliographic Standards, Formats and Protocols

*Shri Rajesh Chandrakar, Scientist B (LS)*

Bibliographic standards and protocols are backbone of any bibliographic databases and related software. The standards and protocols streamline the implementation of activities, provide utmost quality, consistency and most importantly facilitate interoperability, data transfer and exchange of the system.

Uniform standards and protocols are pre-requisite for data transfer, exchange and interoperability of the system. It facilitates merging of records in union catalogues and maintenance of its quality. The development and maintenance of union catalogues is one of the key activities of the Centre. As per the directives from the MHRD and recommendation of Expert Committee appointed by the Centre, important fields from MARC21 bibliographic format were identified according to practices in Indian libraries. The committee recommended use of MARC21 in university and college libraries. The committee also recommended making SOUL software compliant to MARC21 bibliographic format. Accordingly, each participating library was advised to use MARC21 bibliographic format for creation of bibliographic records using their library automation software. Respectively, the SOUL2.0 software was made MARC21 compliant. Further, the SOUL2.0 is also fully compliant to other standards such as Unicode, ISO2709, MARCXML, AACR2, SIP2.0 and NCIP2.0 protocols. Likewise, the INFLIBNET's union catalogue of books also facilitates exporting bibliographic records in MARC21 format based ISO2709. These standards and some of the guidelines prepared by the Centre such as "Guidelines for Data Capturing: A User Manual" and "SOUL Guidelines for Data Capturing: A User's Guide" are available for download on the INFLIBNET website at <http://www.inflibnet.ac.in/publication/>. Other standards recommended to the participating libraries are:

- ❖ Anglo American Cataloguing Rules 2 (Rev.)
- ❖ Library of Congress Subject Headings

The Centre participates in the activities of the National Information Standards Organization (NISO) as its Voting Member. The NISO is a non-profit association accredited by the American National Standards Institute (ANSI), which identifies, develops, maintains, and publishes technical standards to manage information in digital environment. NISO standards apply in both traditional and new technologies to the full range of information related needs, including retrieval, re-purposing, storage, metadata and preservation. Leaders of the organizations in the fields of publishing, libraries, IT and media serve as Voting and Alliance Members to the NISO. With the NISO, which is closely associated with the Technical Committee (TC) 46 of the International Organization for Standardization (ISO), the Centre is also involved with the activity of TC46. The TC46 Committee on Information and Documentation of the ISO serves to the following subcommittees:

- 
- a. SC4 on Technical Interoperability
  - b. SC8 on Quality – Statistics and Performance Evaluation
  - c. SC9 on Identification and Description
  - d. SC11 on Archival / Records Management

The Centre is a member of the Cataloguing, Information Technology and Serials Working Group of the IFLA (International Federation for Library Associations and Institutions) based at The Hague, Netherland. Further, the Centre is also Review Group Member of the IFLA FRBR (Functional Requirements for Bibliographic Records). The Centre is also associated with the Technical Committee MSD5 on Documentation and Management of Bureau of Indian Standards (BIS), New Delhi at the national level as its Voting Member. Besides, the Centre also serves as a Member on its different Panels formed for various activities and development of standards. As member of various Institutions involved in formation of standards, the Centre participated in the following activities:

### **7.9.1. Indian Standards Reviewed**

Following Indian Standards were reviewed and comments were sent to the BIS during the period under report:

- MSD 5(386)P Guide for paper spoilage and wastage for printing industry, Part 1 Sheetfed letterpress and offset processes [First revision of IS 12000 (Part 1) :1987]
- MSD 5(387)P Guide for preparation of abstracts (First Revision of IS 795:1976)
- MSD 4(330) Glossary of terms in Inventory Management (Second Revision)

### **7.9.2. BIS MSD5 and Panel Meetings**

As part of the standards development activities, the Centre participated in the following BIS meetings and training programme during the period under report:

- ❖ Meeting of the Panel on Content Analysis (MSD5/P-10), Manak Bhavan, New Delhi, 15<sup>th</sup> September 2009
- ❖ Meeting of the MSD5/P-6, Panel to Review Indian Standards Published by MSD5, Manak Bhavan, New Delhi, 16<sup>th</sup> September 2009
- ❖ Meeting of MSD5, Manak Bhavan, New Delhi, 17<sup>th</sup> September 2009
- ❖ Meeting of the Panel on Content Analysis (MSD5/P-10), Manak Bhavan, New Delhi, 13<sup>th</sup> November 2009
- ❖ Training Programme for organizations developing standards held at NITS (National Institute for Training for Standardizations), Noida, 10<sup>th</sup> to 11<sup>th</sup> March 2010.

### 7.9.3. Reviewed and Balloted NISO Standards

The Centre actively participates in the process of evaluation of standards and protocols proposed by the NISO under various categories. The Centre voted for the review, re-affirmation and formulation of the following standards during the period under review:

- ❖ ANSI/NISO Z39.43-1993 (R2006): Standard Address Number (SAN) for the Publishing Industry
- ❖ ANSI/NISO Z39.71-2006: Holdings Statements for Bibliographic Items
- ❖ ANSI/NISO Z39.78-2000 (R2006): Library Binding
- ❖ ANSI/NISO Z39.87-2006: Data Dictionary - Technical Metadata for Still Images
- ❖ Voted for “Proposed New Work Item: Standardized Markup for Journal Articles”
- ❖ Voted for “Proposed New Work Item: Physical Delivery of Library Resources”
- ❖ Voted for NISO Board of Directors and Officers Ballot 2009

### 7.10. Human Resource Development & Consultancy

*Shri H G Hosamani, Scientist B (LS)*

*Mrs. Hema Cholin, STA – I (LS)*

*All Technical Staff Members*

Imparting training to manpower working in the university and college libraries in the use of ICT is an important objective of the Centre and has been given due priority. 423 training programmes, workshops and seminars focusing on the library automation and networking have so far been conducted benefitting to 33,944 participants. INFLIBNET Regional Training Programme for Library Automation and User Awareness Training Programme were conducted across the country in collaboration with the universities and colleges. National and International Conventions called PLANNER in North-eastern regions and CALIBER in various states in India are being organized annually / bi-annually as part of the human resource development activities. The Centre has also conducted 83 Training Programmes on SOUL Installation and Operations for Libraries so far. A brief report on these training programmes is given below:

#### 7.10.1. SOUL Training Programmes

The INFLIBNET provides five-day Orientation Training Programme specially designed for imparting training to new users on installation and implementation of the SOUL software in libraries. The morning sessions of the programme are devoted to theoretical lectures and demonstrations, while the afternoon sessions are completely earmarked for “hands-on” practice. The participants are given facilities of a well-equipped computer laboratory and

“hands-on” sessions are conducted under the able guidance of trained staff members. The course content of the programme is designed to cover the following topics:

- i) INFLIBNET: Major Activities and Services
- ii) SOUL – Administration and Overview
- ii) SOUL - Catalogue Module
- iv) SOUL - Acquisition Module
- v) SOUL – Circulation Module
- vi) SOUL – Serials Control Module
- vii) SOUL- OPAC, WebOpac, Installation and Backup

Generally, two participants from every user institution are invited to join this training programme, one each with computer and library science background. The INFLIBNET provides TA / DA to one of the participants from each user institute. As on March 31, 2010, 83 such training programmes were organized at the Centre so far. During the period under report, 10 training programmes (see Table 17) were organized to impart training and 256 participants from different institutions participated in these 10 training programmes. 74<sup>th</sup> training programme was organized in the LD Engineering College, Ahmedabad for the librarians of engineering colleges of the Gujarat state.

<b>Training Programme No.</b>	<b>Period of Programme</b>	<b>No of Participants</b>
74	April 20-24, 2009	57
75	June 8-12, 2009	21
76	June 22-26, 2009	20
76(A)	July 6-10, 2009	27
77	July 13-17, 2009	21
78	July 27-31, 2009	24
79	August 24-28, 2009	18
80	October 5-9, 2009	26
81	November 9-13, 2009	22
82	December 7-11, 2009	20
	<b>Total</b>	<b>256</b>

**Table 17: Schedule of SOUL Training Programmes Organized at the INFLIBNET Centre**

## **7.10.2. Specialized Training Programme**

### **7.10.2.1. Workshop on DSpace, CUSAT, Kochi, April 22-24, 2009**

Cohin University of Science and Technology (CUSAT) conducted a National Workshop on DSpace in collaboration with HP India and INFLIBNET Centre from 20<sup>th</sup> to 24<sup>th</sup> April 2009. The Workshop concentrated on installation of DSpace 1.5.1 on Ubuntu Server 8.10. 25 participants attended the workshop from different parts of the country. The morning sessions were devoted to theoretical aspects and the afternoon sessions were devoted to “hands-on” practice. It was the first National Workshop dedicated to DSpace on Ubuntu platform. Ubuntu (<http://ubuntu.com>) is a simplified derivative server of Debian. Dr. Jagdish Arora, Director, INFLIBNET Centre delivered the keynote address during the inaugural session of the Workshop.

### **7.10.2.2. National Workshop on Digital Content Management (DCM), March 11-13, 2010**

The Gujarat University, in collaboration with the INFLIBNET Centre, Ahmedabad organized UGC-sponsored National Workshop on Digital Content Management (DCM) from 11<sup>th</sup> to 13<sup>th</sup> March 2010. 18 participants attended the workshop including Mrs. Vaishali Shah, STO-I, Mrs. Hema Cholin, STA-I, Ms. Seema Chavda, Project Assistant (LS), Mrs. Reshma Panchal, Project Assistant (LS), Ms. Kanchan Chavda, Project Associate (LS) and Mr. Imran Mansuri, Project Assistant (LS) from the INFLIBNET Centre. Table 18 provides names of the INFLIBNET and external faculty with their topic of presentations made during the Workshop:

SL	Topic	Name of the staff
1.	DCM Trends and Issues	Dr. Daulat Jotwani, Librarian, IIT Bombay, Mumbai
2.	IPR Issues	Dr. R K Chaddha, Joint Secretary, Lokshabha
3.	DCM using Joomla	Sh. Manoj Kumar K, Scientist D (CS)
4.	Introduction to Greenstone	Sh. Ashok Kumar Rai, Scientist D (CS)
5.	IR and Digital Archives using DSpace	Sh. Yatrik Patel, Scintist C (CS)
6.	Digital Content Management and Bibliographic Standards	Sh. Rajesh Chandrakar, Scientist B (LS)

**Table 18: Names of the INFLIBNET Staff with their Topics of Presentations**

### **7.10.2.3. Workshop on Library Automation Software SOUL 2.0 and DSpace for Building Digital Library, Hemchandracharya North Gujarat University, Patan, March 22-26, 2010**

The S.U.Patel Library and Department of Library and Information Science, Hemchandracharya North Gujarat University, Patan in collaboration with the INFLIBNET Centre, Ahmedabad organized 5-day “Workshop on Libray Automation Software SOUL 2.0 and DSpace for



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Building Digital Library” at the S.U. Patel Library from 22<sup>nd</sup> to 26<sup>th</sup> March 2010. 5-day workshop was divided into two parts; 3-days for SOUL 2.0 and 2-days for DSpace. Mrs. Vaishali Shah, STO-I and Ms. Nabila Shaikh, SOUL Technical Assistant (CS) were resource persons for SOUL 2.0 and Shri Yatrik Patel, Scientist C (CS) and Shri Swapnil Patel, Project Officer (CS) from INFLIBNET Centre were resource persons for DSpace. 29 participants from colleges affiliated with the Hemchandracharya North Gujarat University, Patan attended the Workshop.

#### **7.10.2.4. Two Days In-House Training Programme on SOUL 2.0, University of Mumbai, Mumbai, March 29-30, 2010**

The Jawaharlal Nehru Library, University of Mumbai organised 2-day in-house Training Programme on SOUL 2.0 in collaboration with the INFLIBNET Centre, Ahmedabad from 29<sup>th</sup> to 30<sup>th</sup> March 2010 at Vidyanagari, Santacruz (East), Mumbai. Mrs. Hema Cholin, Scientific & Technical Assistant (LS) and Ms. Nabila Shaikh, Technical Assistant (CS) were resource persons from the Centre. The presentations on the modules were made at the Professor D N Marshall Auditorium and “hands-on” practices were arranged at Computer Lab of the Department of Library and Information Science, University of Mumbai. The programme was attended by 29 professional staff and 6 teaching staff of the University of Mumbai Library System. The programme was coordinated by Prof. (Mrs) Vijaya Rajhansa, University Librarian, University of Mumbai.

#### **7.10.3. Users Awareness Programmes on E-resources**

The INFLIBNET Centre conducts extensive user awareness programmes to generate awareness amongst students, researchers and faculty about e-resources and their accessibility through the UGC-Infonet Digital Library Consortium. 6 users awareness programmes were organized at different universities during the period under report. Users awareness programmes are being conducted in universities regularly on the basis of requirements raised by the universities. Major objective of this programme is to generate awareness and encourage researchers for making optimum use of e-resources provided to the universities under the Consortia arrangement. The awareness programmes were organized at various universities and coordinated by the identified coordinators from each university in association with the scientific staff of the Centre. The following universities organised user awareness programmes during the year under report:

##### **7.10.3.1. Cochin University of Science and Technology, Kochi, April 21, 2009**

The User Awareness Programme on Access to E-Resources under the UGC-Infonet Digital Library Consortium was organised by Cochin University of Science and Technology (CUSAT), and the Kerala Library Association, Ernakulam Region on 21<sup>st</sup> April 2009 at CUSAT, Kochi. Dr. Jagdish Arora, Director, INFLIBNET Centre inaugurated the programme. Dr. N. Chandramohanakumar, Registrar, CUSAT delivered presidential address. Dr. V.P.N. Nampoori, Dean, Faculty of Technology and the Director, International School of Photonics, CUSAT felicitated at the inaugural function of the programme. Shri Joe Joseph, Junior

Librarian, CUSAT and Secretary, KLA Ernakulam Region proposed a warm vote of thanks. Publishers of e-resources or their representatives, made presentations on the e-resources made available to the university under the UGC-Infonet Digital Library Consortium programme. Publishers who made presentations included Cambridge University Press, M/s Informatics (India) Ltd. (for JCCC and Annual Reviews) and Balani Infotech (for SIAM & ACS).

#### **7.10.3.2. Osmania University, Hyderabad, June 22-23, 2009**

Osmania University Library conducted a two-day Workshop on User Awareness Programme on Access to E-Resources under the UGC-Infonet Digital Library Consortium from 22<sup>nd</sup> to 23<sup>rd</sup> June 2009. The first day of the Workshop was devoted to imparting awareness on e-resources in Arts, Social Sciences & Humanities and the second day was devoted to imparting awareness on e-resources in science disciplines. Smt.V. Revathi I/c University Librarian, Osmania University Library coordinated the Workshop. Prof. Y.C. Venudhar, Registrar, Osmania University inaugurated the Workshop. Prof S. Sudarshan Rao, Principal, University College of Arts & Social Sciences and Head, Department of Library & Information Sciences presided over the inaugural session. Dr. Jagdish Arora, Director and Shri Ashok Kumar Rai, Scientist D, represented the INFLIBNET Centre. 350 participants consisting of faculty members, research scholars, students, library professionals of the Osmania University and neighbouring academic and research institutions attended the Workshop. Representatives of the publishers made presentations on e-resources accessible to the Osmania University Library. Presentations were made by Balani InfoTech (Project Muse, ACS & SIAM), M/s Informatics (India) Ltd. (JCCC and Annual Review), Cambridge University Press, Springer (India) Private Limited, Oxford University Press, Blackwell-Wiley, Taylor and Francis and SciFinder Scholar.

#### **7.10.3.3. University of Mumbai, Mumbai, September 22-23, 2009**

The University Library and Department of Library and Information Science, University of Mumbai organized two-day "User Awareness Programme on Access to E-Resources under the UGC-INFONET Digital Library Consortium" on 22<sup>nd</sup> and 23<sup>rd</sup> September 2009 at Jawaharlal Nehru Library, Vidyanagari Campus, University of Mumbai, Mumbai. Dr. Vijay Khole, Hon'ble Vice-Chancellor inaugurated the programme. Sh. Yatrik Patel, Scientist-C represented the INFLIBNET Centre and delivered a lecture on UGC-Infonet Digital Library Consortium and e-resources accessible to the University of Mumbai. Representatives of the Publishers from Thompson Press (for Web of Science), GIST (for Wiley-Blackwell and Taylor and Francis), Book Marketing Services (for IOP and RSC), Cambridge University Press, Globe Publications (for AIP/APS, MathSciNet), Balani Infotech (for ACS, SIAM and Project Muse), Elsevier (for Cell Press, Science Direct) and Springer (India) made presentations on their e-resources available to the University. The programme ended with a warm vote of thanks by Prof. (Mrs.) Vijaya Rajhansa, Coordinator of the programme.

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#### **7.10.3.4. Gujarat University, Ahmedabad, November 25, 2009**

The Department of Library and Information Science and Central Library, Gujarat University jointly organized one-day User Awareness Programme under the UGC-Infonet Digital Library Consortium at School of Commerce Conference Hall on 25<sup>th</sup> November 2009. The awareness programme was inaugurated by Dr. Parimal Trivedi, Vice Chancellor, Gujarat University. Mrs. Geeta Gadhvi, Coordinator, Department of the Library and Information Science, Gujarat University coordinated the programme. Dr. Jagdish Arora, Director, INFLIBNET Centre delivered the Keynote address on UGC-Infonet Digital Library Consortium. The programme was attended by over 200 participants including faculty, research scholars, students and the staff. Representatives of the publishers of e-resources accessible to the University made presentations on their resources. The representatives were from Balani Infotech (for ACS and Project Muse), Cambridge University Press, Wiley-Blackwell, Taylor & Francis, Oxford University Press, Globe Publications (for AIP/APS and MathSciNet) and Informatics (for JCCC and Annual Reviews).

#### **7.10.3.5. Hemchandracharya North Gujarat University, Patan, November 26, 2009**

The University Library and Department of Library and Information Science of Hemchandracharya North Gujarat University, Patan organized User Awareness Programme on Access to E-Resources subscribed under the UGC-Infonet Digital Library Consortium on 26<sup>th</sup> November 2009. Dr. K K Shah, Vice Chancellor, Hemchandracharya North Gujarat University inaugurated the awareness programme. About 300 participants consisting of teachers, research scholars, students and staff of the university participated in the programme. Dr. Jagdish Arora made a presentation on "INFLIBNET Centre: Current Status and Future Endeavours". Representatives of publishers of e-resources such as Annual Reviews, JCCC, American Chemical Society, Project Muse, Taylor & Francis, Springer, Cambridge University Press, Blackwell-Wiley, Oxford University Press, Institute of Physics, Royal Society of Chemistry, American Institute of Physics and American Physical Society made presentations on e-resources available to the University.

#### **7.10.3.6. Bhavnagar University, Bhavnagar, March 5, 2010**

The Bhavnagar University, Bhavnagar organised one-day User Awareness Programme on Access to E-resources subscribed under UGC-INFONET Digital Library Consortium on 5<sup>th</sup> March 2010 at Senate Hall of the University. Dr. B. L. Sharma, Vice Chancellor, Bhavnagar University inaugurated the programme. Dr. Jagdish Arora, Director, INFLIBNET Centre gave presidential address. Dr. Batuk M. Gohel, Librarian, Bhavnagar University coordinated the programme. Ms. Kruti Trivedi, Project Officer, INFLIBNET Centre was resource person from the INFLIBNET Centre. The publishers or their representatives who made presentations on their e-resources available to the university included Informatics India (for Annual Review & JCCC), Balani Infotech (for SIAM & ACS), Springer, Cambridge University Press, Blackwell-Wiley, Globe Publications (for MathSciNet & AIP/APS) and Oxford University Press.

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#### **7.10.4. INFLIBNET Regional Training Programme on Library Automation**

Nine INFLIBNET Regional Training Programme on Library Automation (IRTPLA) were organized by the Centre in collaboration with 9 different institutions during the period under report. A brief report on IRTPLAs organised during the year is given below:

##### **7.10.4.1. Delhi Library Association, Ranganathan Bhavan, Delhi, August 10-14, 2009**

The INFLIBNET's SOUL Regional Service Centre, Delhi and Delhi Library Association, Delhi organized a 5-day IRTPLA from 10<sup>th</sup> to 14<sup>th</sup> August 2009 at Ranganathan Bhawan, Delhi. The Training Programme was organized in two batches for existing SOUL users of Delhi and NCR Region, respectively. Seven SOUL users from Delhi and 17 SOUL users from NCR and other adjoining regions (Ghaziabad, Modinagar, Meerut, Sarurpur, Kota and Kishangarh) benefited from this training programme in the use and installation of SOUL 2.0. Shri Yatrik Patel, Scientist C and Shri Rajesh Chandrakar, Scientist B from the Centre were resource persons for two batches of existing SOUL users along with Shri Dinesh Rayka and Shri Divyakant Vaghela, Project Assistants. Dr Jagdish Arora, Director, INFLIBNET Centre was the chief guest for Inaugural / Valedictory session of the two programmes. Prof C P Vashishth, INFLIBNET's SOUL Regional Coordinator, SOUL Service Centre, Delhi coordinated both the training programmes.

##### **7.10.4.2. Indian Institute of Advanced Studies, Shimla, September 7-11, 2009**

The Library of the Indian Institute of Advanced Studies (IIAS), Shimla organized 5-day IRTPLA from 7<sup>th</sup> to 11<sup>th</sup> September 2009. 45 library professionals from different districts of the Himachal Pradesh participated in the programme. The participants were given "hands-on" practice on SOUL 2.0 software. Besides, library management software, the training covered lecture on library networking, library consortium, e-resources, web page designing, RFID, etc. Prof. Peter Ronald Desouza, Director, IIAS inaugurated the programme. Sh. Prem Chand, Librarian, IIAS coordinated the Programme. Sh Manoj Kumar K, Scientist – D, INFLIBNET Centre was resource person along with Sh. H G Hosamani, Scientist B (LS), Sh. Vijay Kumar Shrimali, Technical Assistant and Sh. Mitesh Pandya, SOUL Technical Assistant.

##### **7.10.4.3. R K Talreja College, Thane, Maharashtra, September 14-18, 2009**

The R K Talreja College of Arts, Science and Commerce, Thane, Mumbai organized 5-day IRTPLA from 14<sup>th</sup> to 18<sup>th</sup> September 2009. The Programme was inaugurated by Shri P P Chhugani, Chief Guest and Member of Board of Directors, R K Talreja College. Ms Nalini Raja, Assistant Librarian, R K Talreja College was Coordinator of the Programme. Shri Yatrik Patel, Scientist C represented INFLIBNET Centre. 28 participants (6 new SOUL users, 22 existing SOUL users) from Maharashtra and Goa participated in the programme.

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Shri Dinesh Pradhan, Scientific & Technical Officer (LS), Ms Heli Banker, Project Officer (CS), Shri Mayur Gohel, Technical Assistant (CS) made presentations on the various modules of SOUL 2.0 and assisted during the “hands-on” practice session as resource person from the INFLIBNET Centre.

#### **7.10.4.4. Rajasthan University, Jaipur, November 3-7, 2009**

The Department of Library and Information Science, University of Rajasthan, Jaipur organized 5-day Regional Training Programme on Library Automation from 3<sup>rd</sup> to 7<sup>th</sup> November 2009. The programme was inaugurated by Dr. Furqan Qamar, Hon'ble Vice Chancellor, University of Rajasthan, Jaipur on 3<sup>rd</sup> November 2009. 35 library professionals from different institutions and the staff of Rajasthan University attended the training programme. The programme consisted of 13 theoretical lectures in forenoons and “hands-on” practice in afternoon. Dr. Jagdish Arora, Director, INFLIBNET Centre delivered a lecture on “New ICT Tools and Techniques and their Impact on Libraries”. Mrs. Vaishali Shah, STO-I, Ms. Nilam Chavda, Project Associate and Ms. Nabila Sheikh, Technical Assistant from INFLIBNET Centre were resource persons for the training programme. Dr. M R Rawtani, Associate Professor, Department of Library and Information Science, University of Rajasthan coordinated the programme.

#### **7.10.4.5. University of Kashmir, Srinagar, November 16-20, 2009**

The Department of Library and Information Science, University of Kashmir organized 5-day Training Programme on Library Automation from 16<sup>th</sup> to 20<sup>th</sup> November 2009. The programme was inaugurated by Prof. Reyaz Punjabi, Vice Chancellor, University of Kashmir. Dr. Jagdish Arora, Director, INFLIBNET Centre was the Chief Guest of the programme. The Training Programme was divided into ten technical sessions including theory and practice. Prof. W A Alvi, Former Head, Department of Library and Information Science, University of Kashmir was the Chief Guest for the valedictory function. Sh. H G Hosamani, Sh. Swapnil P Patel, Project Officer (CS) and Sh. Saroja Kumar Panda, Project Associate (LS) served as faculty for the training programme from the INFLIBNET Centre. Mr. N A Khan from the University acted as Organizing Secretary for the programme.

#### **7.10.4.6. University of North Bengal, Jalpaigudi, December 14-18, 2009**

The University of North Bengal, Jalpaigudi organized Regional Training Programme on Library Automation from 14<sup>th</sup> to 18<sup>th</sup> December 2009. Prof. Alok Kumar Banerjee, Vice Chancellor, University of Kalyani inaugurated the programme. Prof. Siddhartha Datta, former Vice Chancellor, Jadavpur University was the Chief Guest of the programme. Prof. Arunabha Basu Majumdar, Vice Chancellor, University of North Bengal, Jalpaigudi presided over the function. Prof. C R Naik, and Sh. Mruganka Mandal, Librarian were the Joint Convenors of the IRTPLA programme. Sh. H G Hosamani, Scientist B (LS), Sh. Dinesh Rayka and Sh. Divyakant Vaghela, Project Officer (CS) from the INFLIBNET Centre acted as resource persons for the training programme. 35 participants from different parts of West Bengal attended the programme.



#### **7.10.4.7. Hemchandracharya North Gujarat University, Patan, January 4-8, 2010**

The S.U. Patel Library and Department of Library and Information Science, Hemchandracharya North Gujarat University, Patan organised 5-day IRTPLA from 4<sup>th</sup> to 8<sup>th</sup> January 2010 at the University Campus. The training programme was inaugurated by Dr. K.K. Shah, Vice Chancellor of the University. Dr. Jagdish Arora, Director, INFLIBNET Centre, Dr. J.H. Pancholi, Pro-Vice Chancellor and Dr. B.J. Rathore, In-charge Registrar also addressed the participants and invitees during Inaugural session of the Programme. The training programme was exclusively devoted to imparting training on the SOUL 2.0. Different modules of the SOUL 2.0 were presented and demonstrated during “hands-on” practice by the INFLIBNET representatives including Mrs. Vaishali Shah, STO-I, Ms. Kruti Trivedi, Project Officer (LS), Sh. Kamlesh Vegad, SOUL Technical Assistant (LS) and Mayur Gohel, SOUL Technical Assistant (CS). About 34 participants from various college libraries affiliated with Hemchandracharya North Gujarat University, Patan participated in the programme. Dr. M G Patel, In-charge University Librarian Coordinated the Programme.

#### **7.10.4.8. Pt. Ravishankar Shukla University, Raipur, February 15-19, 2010**

Pt. Sunderlal Sharma Library and Department of Library and Information Science, Pt. Ravishankar Shukla University, Raipur organised 5-day IRTPLA from 15<sup>th</sup> to 19<sup>th</sup> February 2010. The programme was inaugurated by the Chief Guest, Shri S. C. Behar, former Chief Secretary, Govt. of Madhya Pradesh. Prof. S K Pandey, Vice Chancellor, Pt. Ravishankar Shukla University, Raipur presided over the function. Dr. Suparna Sengupta, Librarian of the University coordinated the training programme. 28 participants from the colleges affiliated to the Pt. Ravishankar Shukla University, Raipur attended the programme. Sh. Rajesh Chandrakar, Scientist B (LS), Sh. Vijay Shrimali, Technical Assistant (CS) and Sh. Kamlesh Vegad, SOUL Technical Assistant (LS) were resource persons from the INFLIBNET Centre. The five-day training programme was devoted to imparting training on SOUL 2.0 software.

#### **7.10.4.9. IPS Academy, Indore, March 12-14, 2010**

The Department of Library Science, IPS Academy, Indore conducted a Workshop on SOUL for Library Automation and Networking in collaboration with INFLIBNET Centre, Ahmedabad from 12<sup>th</sup> to 14<sup>th</sup> March 2010. Sh. Abhishek Kumar, Scientist B (CS) along with Sh. Vijay Shrimali, SOUL Technical Assistant (CS) and Sh. Kamlesh Vegad, SOUL Technical Assistant (LS), represented the INFLIBNET Centre. Shri Rakesh Khare, SOUL Coordinator (Madhya Pradesh & Chhattisgarh) along with his Technical Assistant also served as faculty for the Workshop. 125 participants from different parts of the country attended the Workshop.

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### 7.10.5. SOUL Support Services

The INFLIBNET uses the following ways and means to extend after-sale service and support to its SOUL users:

#### 7.10.5.1. SOUL Support Cell at INFLIBNET Centre

SOUL Support Cell is a joint activity of Software Development Group & Human Resource Development Group. The Support cell helps in handling queries and troubleshooting pertaining to SOUL software having base of more than 2026 installations across the country. The Support Cell co-ordinates with library professionals and SOUL developers for resolving queries and customization issues of SOUL users. The SOUL Support Cell consists of staff members from library and computer science background. The tools used for handling queries are as follows:

**Telecommunication:** The Centre has extended a dedicated telephone line (079-26300007) with extensions 28 and 35 for handling queries from SOUL users.

**Instant Messaging:** The Centre has created a Google email ID (soulhelp0007@gmail.com) to provide support to SOUL users through Google Talk.

**INFLIBNET Chat:** Besides, Google Talk, users can also log on to <http://www.inflibnet.ac.in/chat> to interact with SOUL Support Staff in real time mode.

**Teamviewer:** Software called Teamviewer is used for trouble shooting and fixing the SOUL problems in real time by accessing the SOUL Server remotely from the INFLIBNET Centre. This method is used for fixing the server when other methods of solving the problems do not provide result.

#### 7.10.5.2. SOUL Regional Support Services

The Centre has appointed six SOUL Coordinators in different geographical regions of the Country based on number of installations of the software. Each SOUL Coordinator employs 2 to 3 technical assistants so as to provide proactive support to the SOUL users in their respective regions. SOUL Coordinators are responsible for providing maintenance support to the existing users as well as for promoting the software to the new users. Names and contact details of the SOUL coordinators are given below in table 19:

<b>Name</b>	<b>Address/Phone No. / Email/ State</b>
<b>Prof. C. P. Vashishth</b>	<b>Delhi, Uttaranchal &amp; UP</b>
	28-B, Pocket 'A' MIG Flat, Ashok Vihar, Phas III <b>Delhi – 110 052</b> <b>Ph. No. : 011-25774507 (O) 011-27112721 (R)</b> <b>Email : cpv_36@yahoo.co.in</b>
<b>Dr. Sanjay Singh</b>	<b>North Eastern Region</b>
	Dept of Library and Information Science Guahati University, Guwahati <b>Mobile No.:</b> 09435040402 <b>Email:</b> sksgu1@gmail.com
<b>Sh. Ashok S. Sonone</b>	<b>Maharashtra &amp; Goa</b>
	<b>Librarian</b> <b>Sitabai Arts College</b> Civil Line <b>Akola – 444 004, Maharashtra</b> <b>Mob.:</b> 094217 55869 <b>Email:</b> asonone67@gmail.com
<b>Sh. Rakesh Kumar Khare</b>	<b>M.P. &amp; Chhattisgarh</b>
	<b>Office Add.</b> <b>Govt. M.L.B. Girls PG (Auto) College</b> Bhopal, Madhya Pradesh <b>Res. Add. :</b> F-8/20, Char Imli <b>Bhopal – 462 016, Madhya Pradesh</b> <b>Mob. :</b> 099265 35452 <b>Email:</b> orakesh16@yahoo.co.in
<b>Sh. J. Laxma Reddy</b>	<b>A.P., Karnataka, Pondicherry and Kerala</b>
	Lecturer in Library Science Nagarjuna Government College (A) <b>Nalagonda– 508 001, Andhra Pradesh</b> <b>Ph. No. :</b> 099081 15333 <b>Email:</b> clicngc@gmail.com
<b>Smt. Nalini A Raja</b>	<b>Maharashtra and Goa</b>
	302, Hari-Kripa, L.T.Road, Borivli (W) <b>Mumbai - 400 092, Maharashtra</b> <b>Mob.:</b> 09920790757 <b>E-mail:</b> nalini99@gmail.com
<b>INFLIBNET SOUL Support</b>	<b>Gujarat and Rajasthan</b>
	Sh. H G Hosamani, Scientist B (LS) And his Team of the SOUL Support <b>Phone:</b> 079-26300007 <b>E-mail:</b> soul@inflibnet.ac.in

**Table 19: Names of the SOUL Coordinators with their Contact Addresses**

## 8. Conventions

The Centre organizes two major conventions namely International CALIBER and PLANNER on alternate years. During the year under report, 7<sup>th</sup> PLANNER was organized at Tezpur University, Tezpur, Assam in February 2010. A brief write-up on this event is given below:

### 8.1. 7<sup>th</sup> PLANNER 2010, February 18-20, 2010, Tezpur University, Tezpur

The 7<sup>th</sup> National Convention PLANNER (Promotion of Library Automation and Networking in North-Eastern Region) was jointly organised by the INFLIBNET Centre and Tezpur University at Tezpur from 18<sup>th</sup> to 20<sup>th</sup> February 2010 under the theme “Re-engineering of Library and Information Services in Digital Era”. The theme was divided into three sub-themes namely Library Automation, Resource Management and Collaborative Resource Generation. 250 delegates and 35 invitees attended the convention from all over the country.



**Fig. 27: Dr. Jagdish Arora, Director, INFLIBNET Centre lighting the Traditional Lamp during Inauguration of the PLANNER 2010 along with Prof. B.P. Sanjay, Vice Chancellor, Central University of Tamil Nadu, Pro. M. K. Chaudhuri, Vice Chancellor and Dr. Mukesh Saikia, Deputy Librarian, Tezpur University and Prof. A K Buragohain, Registrar, Tezpur University**

The convention was inaugurated by Prof. B.P. Sanjay, Vice Chancellor, Tamil Nadu Central University. Prof. Sanjay also released the Souvenir of the convention. Prof. M.K. Chaudhuri, the Vice Chancellor of Tezpur University presided over the function. Dr. Jagdish Arora, Director, INFLIBNET Centre introduced the theme of the convention. Dr. Mukesh Saikia, Deputy Librarian, Tezpur University was Organising Secretary and

Sh. H.G. Hosamani, Scientist B (LS), INFLIBNET Centre was the Convenor of the Convention. The proceedings had 50 full-text papers and 11 abstracts. There were two pre-convention tutorials on “SOUL 2.0” and “Creating Institutional Repository using Dspace” presented by Shri Yatrik Patel, Scientist C (CS), INFLIBNET Centre, Ahmedabad on 18<sup>th</sup> February 2010. 120 delegates attended tutorials. 8 publishers and 11 vendors participated in the exhibition arranged at the Convention venue.

Prof. A.S. Chandel, Department of Library and Information Science, North Eastern Hill University, Shilong was the Convention Director and Prof. Narendra Lahkar, Department of Library and Information Science, Gauhati University, Guwahati was the Rapporteur General of the Convention. The names of the Chairpersons and Rapporteurs who managed the technical sessions are listed in Table 20 below.

Sessions	Theme	Chairperson	Rapporteur
Session 1	Re-engineering Library Automation, Part 1	Prof. R.K. Barman	Dr. T Temzen
Session 2	Re-engineering Library Automation, Part 2	Dr. V. D. Srivastava	Dr. Manoj K Sinha
Session 3	Resource Management Re-defined, Part 1	Prof. N. N. Sharma	Dr. S.K. Singh
Session 4	Resource Management Re-defined, Part 2	Dr. M.N. Borah	Shri. Prashant K Deka
Session 5	Collaborative Resource Generation and Access, Part 1	Dr. I. Majaw	Ms. J. Thabah
Session 6	Collaborative Resource Generation and Access, Part 2	Dr.Ravi B. Gaddagimath	Shri Hemant Kumar Gohain

**Table 20: Names of the Chairpersons and Rapporteur of the Sessions**





**Fig. 28: Delegates of the PLANNER 2010 with the INFLIBNET invitees**

Besides, the names of the invited theme speakers with their topic of presentations are listed in the Table 21.

Theme	Topic		Theme Speaker
Re-engineering of library acquisitions	Re-engineering Library Automation		Dr. Daulat Jotwani
Resource Management Re-defined	Liblivecd		Dr. A.R.D. Prasad
Resource Management Re-defined	Re-defining resource management using semantic technologies		Dr. Devika Mandali
Collaborative Resource Generation and Access	Re-engineering library and information services: people, process and technology		Dr. Ramesh Gaur

**Table 21: Name of the Invited Theme Speakers with their topic of presentations**

Thread bare discussions were held during the technical sessions on various challenges faced by the libraries in optimizing the library resources for information support to the users in the context of emerging digital era.

The panel discussion was held as a part of concluding session. The panel consisted of Dr. Jagdish Arora, Director, INFLIBNET Centre, Dr. S. Mazumdar, Librarian, Delhi University Library System, Dr. Daulat Jotwani, Librarian, IIT Mumbai, Prof A.S. Chandel, North Eastern Hill University, Shilong, Prof. I. Majaw, North Eastern Hill University, Shilong, Dr. Ravi Gaddagimath, Librarian, Gulbarga University, Dr. V.D. Srivastava, Librarian, IIT Kanpur, Sh. Prem Chand, Librarian, IIAS Shimla and Prof. Narendra Lahkar.

The following major recommendations were made during the deliberations of the convention:

- ❖ to formulate guidelines and standards for re-engineering library and information services in digital era;
- ❖ to prepare guidelines and norms for collaborative generation and organizations of resources, policy for e-resources acquisition and management;
- ❖ to establish a nodal centre of INFLIBNET at North Eastern Region in order to address certain unique problems pertaining to automation, networking and re-engineering of library services in the region;
- ❖ to plan and propose a regional library network in NE region for mutual benefit in addition to resource sharing with other national network and library consortia;
- ❖ to setup institutional repositories and digital libraries in NE region in order to share their resources at regional and national levels; and
- ❖ INFLIBNET Centre should provide technical and financial support for infrastructure development in NE Region besides imparting training in implementing IRs and related activities.

Proceedings of the convention was summarized by Prof. Narendra Lahkar, Rapporteur General of the Convention during Valedictory session. Prof. A.K. Buragohain, Registrar, Tezpur University chaired the session on behalf of Vice Chancellor, Tezpur University. Dr. Mukesh Saikia and Sh. H.G.Hosamani presented warm vote of thanks on behalf of Tezpur University and INFLIBNET Centre, respectively.

## **9. Central Facilities**

The Centre maintains facilities such as Library, Computer Laboratories and Servers to support essential activities of the Centre. A brief description of such central facilities is given below:

## 9.1. Library

The INFLIBNET Centre has a small, specialized library consisting of documents on computer, communication, information and library sciences. The library is fully computerized using SOUL 2.0 integrated library management software. The collection of the library is available online through the Web OPAC facility of the software.

The INFLIBNET Library plays a vital role in collection development and dissemination of scientific and technical information to meet the present and future needs of the Centre. The Library maintains databases of i) participants who have attended various training programmes at INFLIBNET Centre; ii) SOUL installations; and iii) Universities and its contact details including e-mail and website addresses. These databases are accessible through the library website at <http://library.inflibnet.ac.in>.

### 9.1.1. Library Services

The library provides following services to its users:

- ❖ Reference Service
- ❖ Document Delivery Service
- ❖ Current Awareness Service
- ❖ Inter-Library Loan Service
- ❖ Electronic Information Service
- ❖ Reprographic Service



**Fig.29:Library Reading Room**

### 9.1.2. Online Bibliographic Database Access

The Centre subscribes to Web edition of the Ulrich's International Periodical Directory, the web-based bibliographic database of periodicals that is being used for authentication of bibliographic records in union catalogues and for other activities. The database accessible on INFLIBNET's IPs is also accessible to visiting users.

### 9.1.3. Institutional Member

The Centre has institutional membership of following national and international organizations:

- ❖ American Library Association (ALA)
- ❖ National Information Standards Organization (NISO)
- ❖ International Federation for Library Associations and Institutions (IFLA)

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- ❖ Indian Library Association (ILA)
  - ❖ Indian Association of Special Libraries and Information Centres (IASLIC)
  - ❖ ADINET (Ahmedabad Library Network)
  - ❖ British Library, Ahmedabad

#### **9.1.4. E-Journals Archival Library (Print Version)**

Besides receiving access to e-resources on complementary basis under the UGC-INFONET Digital Library Consortium, the Centre maintains a separate Archival Library consisting of printed journals received as a part of the agreement with the participating publishers. Under the agreement, the publishers are requested to submit a copy of all the issues of the journals. This archival library is open to all users interested in using these print resources for their study / research.

The Centre has received issues of 286 journal titles from different publishers. During this year under report, issues of 55 journals each were received from two publishers namely Institute of Physics and Royal Society of Chemistry.

### **9.2. Computer and Network Infrastructure**

Computer and network infrastructure facilities created at the Centre over the years to meet Centre's objectives are as follows:

#### **9.2.1. Personal Computers and Servers**

The INFLIBNET Centre has geared up to mediate resource sharing amongst member universities using best possible ICT infrastructure. In the year 2009, the Centre has shifted several of its services from HP to Blade servers with more than 120 web-enabled PCs and laptops networked in a Local Area Network (LAN). High-end workstations are purchased to support scientific and research activities of the Centre for its scientists. All Workstations and PCs are connected with the campus LAN with security enabled firewall. Web-based services including union databases and websites of the Centre are hosted on HP Blade server that is being collocated at the BSNL Web Hosting Services. The Centre also has 21 printers (including laser and deskjet) and 3 scanners to support various activities of the Centre. Campus LAN is secured with the Cyberroam 50i firewall including gateway, anti-spam and load-balancing facilities. Laptops are issued to the technical staff and also to the senior administrative officers. USB modems are also issued to the senior level project leaders.

#### **9.2.2. Network at the Centre**

The Centre provides most of its services through Internet 24x7 hrs on 365 days. The network infrastructure is one of the most important components used for providing efficient and effective services to the remote and local users. The Centre has upgraded network infrastructure that connects all laboratories and offices of the Centre with 10/100 Mbps

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structured cabling, Rack, I/Os, Jack panels, etc. on layer 2 switches. The LAN is extended to all the buildings of the Centre using manageable switches. Walk-in user's facility is equipped with Wi-Fi for visiting users with laptops.

### **9.2.3. Internet Connectivity**

The Centre is having 2 Mbps (1:1) connectivity from ERNET as on 31<sup>st</sup> March 2010. It was decided to provide a 10 Mbps (1:1) dedicated leased line connectivity from BSNL to all universities including INFLIBNET Centre and other IUCs through the UGC-Infonet Connectivity Programme from April 2010 onwards. The connectivity is being established using OFC (Optical Fiber Cable) with STM1 equipment at the Centre. The Internet connectivity will be shared on Ethernet output of 10 Mbps (1:1) through a Proxy server and Firewall appliance on the Campus Intranet. All servers hosted at the Centre are protected through DMZ port and firewall for security (against attacks, virus, spam, phishing, etc.). Software tools are used for testing the bandwidth, latency, jitter, etc. Internal bandwidth distribution is also managed with the appropriate policies.

## **10. Awards, Honours and Distinctions**

The following awards, honours and distinctions were bestowed on the staff members of the INFLIBNET Centre during the period under report:

### **Dr. Jagdish Arora**

- ❖ Awarded "Master Motilal Sanghi Shresth Pustkalaya Samman" for the year 2009
- ❖ 7<sup>th</sup> Dr. S R Ranganathan Memorial Lecture, 2009
- ❖ Member, Expert Review Committee of the UGC to Review the Functioning of Tilak Maharashtra Vidyapeeth, Pune as Deemed University, 2009
- ❖ Member, National Advisory Committee, P K Kelkar Library, Indian Institute of Technology, Kharagpur (2009- )
- ❖ Member, Library Review Committee, University of Mysore, Mysore (2009 - )
- ❖ Member, Course Development Committee of M.Phil Programme in Library and Information Science, Vardhaman Mahaveer Open University, Kota, Rajasthan
- ❖ Member, Board of Studies (BoS), Associateship in Information Science (AIS), National Institute of Science Communication and Information Resources (NISCAIR), New Delhi (2009-2011)
- ❖ Member, SAC, NISCAIR, New Delhi
- ❖ Member, Submcommittee on Preservation Metadata, Working Group on National Digital Preservation Programme (NDPP), Ministry of Communication and Information Technology, New Delhi



- ❖ Member, Editorial Advisory Board, Journal of Information Science and Technology, Department of Library and Information Science, University of Kerala
- ❖ Editorial Advisor, Interlending & Document Supply
- ❖ Editorial Board, Digital Libraries : An International Journal, TERI, New Delhi

### **Sh. Rajesh Chandrakar**

- ❖ Member, IFLA FRBR Review Group (2009-2013)
- ❖ Member, Panel for Seminar on Use of Indian Standards on Documentation and Information Practices (MSD5/P-12)
- ❖ Member, Panel for Preparing Revised Version of IS 796: 1966 – Glossary of Cataloguing Terms (MSD5/P-8)
- ❖ Inclusion in the 2010 edition of the Marquis's Who is Who in the World
- ❖ Member, Review Committee for “Supply and Installation of RFID based Library Management Software on turn key basis at National Law Institute University, Bhopal, M.P.

## **11. Publications**

### **11.1. Newsletter**

Following four issues of the INFLIBNET Newsletter were published by the Editorial Team of Dr. Jagdish Arora, Director and Shri Rajesh Chandrakar, Scientist B (LS), INFLIBNET Centre:

INFLIBNET Newsletter (Quarterly), Vol. 16, No. 2 (2009) - Vol. 17, No. 1 ( 2010).

### **11.2. Convention Proceedings**

The Centre published following convention proceedings in book form as well as in compact disc during the period under report:

Arora, Jagdish [et.al.]. (Eds.). (2010). Re-engineering of library and information services in digital era. Proceedings of the 7<sup>th</sup> PLANNER jointly organised by INFLIBNET Centre, Ahmedabad & Tezpur University, Tezpur from 18<sup>th</sup> to 20<sup>th</sup> February 2010 at Tezpur University. Ahmedabad: INFLIBNET Centre. 504p.

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### 11.3. Articles Published in Journals and Conference Proceedings

Following 14 articles were published by the INFLIBNET staff in various peer-review national and international journals and conference proceedings during the period under report:

**Arora, Jagdish.** (2009). Web 2.0 and Library 2.0: innovative technologies for building libraries of tomorrow with examples of their applications at INFLIBNET Centre. 7<sup>th</sup> S.R. Ranganathan Memorial Lecture. Ranganathan Bhavan, Delhi Library Association, New Delhi, August 12, 2009.

**Arora, Jagdish and Munshi, Usha.** (2009) National policy on digital preservation for India: A basic framework. In: Proceedings of the Indo-US Workshop on International Trends in Digital Preservation held on 24 – 25<sup>th</sup> March, 2009 in Pune. (pp. 123-130). Pune: CDAC.

**Chandrakar, Rajesh and Arora, Jagdish.** (2009). Library automation in India: past, present and future. *Information Standards Quarterly*, 21 (4), 10-15.

**Trivedi, Kruti, Chauhan, Suresh and Arora, Jagdish.** (2009). Economics of UGC-INFONET Digital Library Consortium. In: Jagtar Singh [et al]. (Eds). *Library and Information Science in Digital Age: Essays in Honour of Professor M. P. Satija*, Vol.1. (pp. 356-369). New Delhi: Ess Ess Publications.

**Arora, Jagdish and Trivedi, Kruti.** (2010). UGC-INFONET Digital Library Consortium: present services and future endeavors. *DESIDOC Journal of Library and Information Technology*, 30(2), 15-25.

**Arora, Jagdish and Trivedi, Kruti.** (2010). INDEST-AICTE Consortium: present services and future endeavors. *DESIDOC Journal of Library and Information Technology*, 30(2), 79-91.

**Arora, Jagdish and Trivedi, Kruti.** (2010). National Library and Information Services Infrastructure for Scholarly Content: extending access to e-resources to colleges. In: Sanjay Kataria, [et al]. (Eds). *Proceedings of the 2<sup>nd</sup> International Symposium on Emerging Trends and Technologies in Library and Information Services*. (pp. 100-108). Noida: JIIT and JUIT.

**Arora, Jagdish.** (2010). Digitization: methods, tools and technology. In: Tariq Ashraf, Jaideep Sharma and Puja Anand Gulati. (Eds). *Developing Sustainable Digital Libraries: Socio-Technical Perspectives*. (pp. 40-63). Hershey, PA: IGI Global Publishing.

**Arora, Jagdish.** (2010). Information and communication technology (ICT) for academic libraries. In: Pawan K. Gupta and Tirth Das. (Eds). *Modern Trends in Library and Information Science: Dr. D.C. Ojha Festschrift*. (pp. 15-63). Jodhpur: Scientific Publishers (India).

**Chandrakar, Rajesh and Arora, Jagdish.** (2010). Copy cataloguing in India: a viewpoints. *INFLIBNET Newsletter*, 16(2-3), 18-21.

**Jha, Ram and Abhishek Kumar.** (2010). New era digital library: re-engineering library. In: Jagdish Arora [et.al.] (Eds.), Re-engineering of Library and Information Services in Digital Era. Proceedings of the 7<sup>th</sup> PLANNER jointly organized by INFLIBNET Centre, Ahmedabad and Tezpur University, Tezpur on February 18-20, 2010. (pp. 346-358). Ahmedabad: INFLIBNET Centre.

**Manoj Kumar, K.** (2010). UGC-Infonet 2.0 and National Knowledge Network (NKN). INFLIBNET Newsletter, 17(1), 20-23.

**Patel, Yatrik.** (2010). Shibboleth based access management for consortia. INFLIBNET Newsletter, 16(4), 11-13.

**Rajeev Kumar.** (2010). Wiki installation and customization. In: Jagdish Arora [et.al.] (Eds.), Re-engineering of Library and Information Services in Digital Era. Proceedings of the 7<sup>th</sup> PLANNER jointly organized by INFLIBNET Centre, Ahmedabad and Tezpur University, Tezpur on February 18-20, 2010. (pp. 492-514). Ahmedabad: INFLIBNET Centre.

#### **11.4. Papers Presented in Conferences, Seminars and Training Programmes**

**Arora, Jagdish.** Return on Investment. Invited Lecture. International Conference on Academic Libraries (ICAL), Delhi University Library System, University of Delhi, Delhi, October 5-8, 2009.

**Arora, Jagdish.** Future of academic libraries. Invited Lecture. Seminar on Future Libraries and Librarians. Jointly organized by Ahmedabad Library Association, Ahmedabad and Special Library Association (SLA), Asian Chapter, AMA, Ahmedabad, October 10, 2009.

**Arora, Jagdish.** Web 2.0 and Library 2.0 : Innovative technologies for building libraries of tomorrow with examples of their applications at INFLIBNET Centre. Invited Lecture. 7<sup>th</sup> S.R. Ranganathan Memorial Lecture. Ranganathan Bhavan, Delhi Library Association, New Delhi, August 12, 2009.

**Chandrakar, Rajesh.** SOUL 2.0. Invited lecture. UGC-Sponsored National Workshop on Library Automation, Kamla Nehru College, Korba, Chhattisgarh, November 6-7, 2009.

**Arora, Jagdish.** N-LIST. Invited lecture. International Conference on Digital Library (ICDL), TERI, New Delhi, February 23-26, 2010.

**Arora, Jagdish.** N-LIST. Keynote Address. UGC Sponsored National Workshop on Building Digital Libraries Using Open Source Software, Sarojini Naidu Govt. PG Girls (Autonomous) College, Bhopal, February 1-5, 2010.

**Chandrakar, Rajesh.** Open access and INFLIBNET's initiative for Indian scholarly content. Presented Paper. International Conference on Digital Library (ICDL) TERI, New Delhi, February 23-26, 2010.

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**Chandrakar, Rajesh.** Open source digital library Software. Invited Lecture. UGC Sponsored National Workshop on Building Digital Libraries Using Open Source Software, Sarojini Naidu Govt. PG Girls (Autonomous) College, Bhopal, February 1-5, 2010.

**Chandrakar, Rajesh.** Greenstone digital library software and DSpace. Invited Lecture. UGC Sponsored National Workshop on Building Digital Libraries Using Open Source Software, Sarojini Naidu Govt. PG Girls (Autonomous) College, Bhopal, February 1-5, 2010.

**Chandrakar, Rajesh.** SOUL 2.0. Invited Lecture. Refresher Course. Devi Ahilya Vishwavidyalaya, Indore, January 20-21, 2010.

**Chandrakar, Rajesh.** Formats, standards and protocols. Invited Lecture. Refresher Course. Devi Ahilya Vishwavidyalaya, Indore, January 20-21, 2010.

**Chandrakar, Rajesh.** Open source initiative in India. Invited Lecture. Refresher Course. Devi Ahilya Vishwavidyalaya, Indore, January 20-21, 2010.

**Chandrakar, Rajesh.** Open access in India. Invited Lecture. Refresher Course. Devi Ahilya Vishwavidyalaya, Indore, January 20-21, 2010.

**Chandrakar, Rajesh.** Digital content management and bibliographic standards. Invited Lecture. National Workshop on Digital Content Management (DCM). Jointly Organized by Gujarat University, Ahmedabad and INFLIBNET Centre, Ahmedabad. INFLIBNET Centre, Ahmedabad, March 11-13, 2010.

**Hosamani, H.G.** INFLIBNET activities and services. Invited Lecture. Refresher Course. Dr. Babasaheb Ambedkar Marathawada University, Aurangabad, January 2 - 23, 2010.

**Hosamani, H.G.** UGC-Infonet Digital Library Consortium. Invited Lecture. Refresher Course. Dr. Babasaheb Ambedkar Marathawada University, Aurangabad, January 2 - 23, 2010.

**Manoj Kumar, K.** DCM using Joomla. Invited Lecture. National Workshop on Digital Content Management (DCM). Jointly Organized by Gujarat University, Ahmedabad and INFLIBNET Centre, Ahmedabad. INFLIBNET Centre, Ahmedabad, March 11-13, 2010.

**Patel, Yatrik.** IR and digital archives using DSpace. Invited Lecture. National Workshop on Digital Content Management (DCM). Jointly Organized by Gujarat University, Ahmedabad and INFLIBNET Centre, Ahmedabad. INFLIBNET Centre, Ahmedabad, March 11-13, 2010.

**Rai, Ashok Kumar.** Introduction to Greenstone. Invited Lecture. National Workshop on Digital Content Management (DCM). Jointly Organized by Gujarat University, Ahmedabad and INFLIBNET Centre, Ahmedabad. INFLIBNET Centre, Ahmedabad, March 11-13, 2010.

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## 12. Distinguished Visitors

Following distinguished personalities visited the Centre during the period under report:

- ❖ Ms. Nobuko Miyairi, Research Solution Consultant, Asia Pacific, Thomson Reuters
- ❖ Dr. T. R. Kem, Director, CEC, New Delhi
- ❖ Dr. (Mrs) Jayakrishnan, Librarian, CEC, New Delhi
- ❖ Dr. S.K. Singh, Reader, Department of Library and Information Science, Gauhati University, Guwahati alongwith his 2 colleagues and 25 students
- ❖ 60 Students and 5 Faculty of the Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat
- ❖ Prof. Sukhadeo Thorat, Chairman, University Grants Commission, New Delhi
- ❖ Prof. S.K. Khanna, Chairman, Governing Board, INFLIBNET Centre
- ❖ Dr. R.K. Chadha, Joint Secretary, Loksabha
- ❖ Dr. Parimal Trivedi, Vice Chancellor, Gujarat University, Ahmedabad
- ❖ Prof. M. N. Patel, Principal, L D Engineering College, Ahmedabad

## 13. Academic Interaction with Universities and other Research Institutions

8 students of B.E. and MCA from engineering colleges in Gujarat and neighbouring states had undergone practical training at the INFLIBNET Centre during the year under report. Although, the Centre receives a large number of applications from engineering colleges and institutions of computer science in Gujarat and neighbouring states for under going the project work at the Centre. 5 Students of M.L.I.Sc. from Department of Library and Information Science, Gujarat University went through their internship programme for one month at the INFLIBNET Centre during June-July 2009.

## 14. Projects @ INFLIBNET Centre

### 14.1. N-LIST (National Library and Information Services Infrastructure for Scholarly Content)

The Project entitled “National Library and Information Services Infrastructure for Scholarly Content (N-LIST)” jointly executed by the UGC-INFONET Digital Library Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium, IIT Delhi provides for i) cross-subscription to e-resources subscribed by the two Consortia, i.e. subscription to INDEST-AICTE resources for universities and UGC-INFONET resources for technical institutions; and



ii) access to selected e-resources to colleges. The N-LIST project provides access to e-resources to authorised students, researchers and faculty from colleges and other beneficiary institutions. The authorized users from colleges and beneficiary institutions can now access e-resources and download required articles directly from the publisher's website once they are duly authenticated as authorized users through servers deployed at the INFLIBNET Centre.

The project has four distinct components, i.e. i) to subscribe and provide access to selected UGC-INFONET e-resources to technical institutions (IITs, IISc, IISERs and NITs) and monitor its usage; ii) to subscribe and provide access to selected INDEST e-resources to selected universities and monitor its usage; iii) to subscribe and provide access to selected e-resources to 6,000 Govt./ Govt.-aided colleges and monitor its usage; and iv) to act as a Monitoring Agency for colleges and evaluate, promote, impart training and monitor all activities involved in the process of providing effective and efficient access to e-resources to colleges.

The INDEST, IIT Delhi and UGC-INFONET, INFLIBNET Centre are jointly responsible for activity listed at i) and ii) above. The INFLIBNET Centre, Ahmedabad is responsible for activities listed at iii) and iv) above. The INFLIBNET Centre is also responsible for developing and deploying appropriate software tools and techniques for authenticating authorized users. Dr. Surendra Patel, Director, IIT, Delhi and Dr. Jagdish Arora, Director, INFLIBNET Centre are Principal Investigators of the Project. Sh. Ashok Kumar Rai, Scientist D (CS) and his team of members of E-Resources Management Group are also associated with the project.

#### **14.1.1. Objectives**

- ❖ Setting-up a National Library and Information Services Infrastructure for Scholarly Content (N-LIST) by augmenting, enriching and strengthening existing LIS Infrastructure;
- ❖ Develop a formidable collection of e-journals and e-books on perpetual access basis;
- ❖ Monitor and promote usage of NLII through awareness and training programmes;
- ❖ Provide access to subscription-based scholarly information (e-books and e- journals) to all educational institutions;
- ❖ Provide access to scholarly content available in open access through subject portals and subject gateways;
- ❖ Bridging digital divide and moving towards a information-rich society; and
- ❖ Host scholarly content, generated indigenously in digital format, in open digital repositories.

### 14.1.2. Accessing the e-resources

The INFLIBNET Centre maintains a comprehensive website about the N-LIST programme and the interface for logging in to access the e-resources. It can be accessed on the URL <http://nlist.inflibnet.ac.in/>.

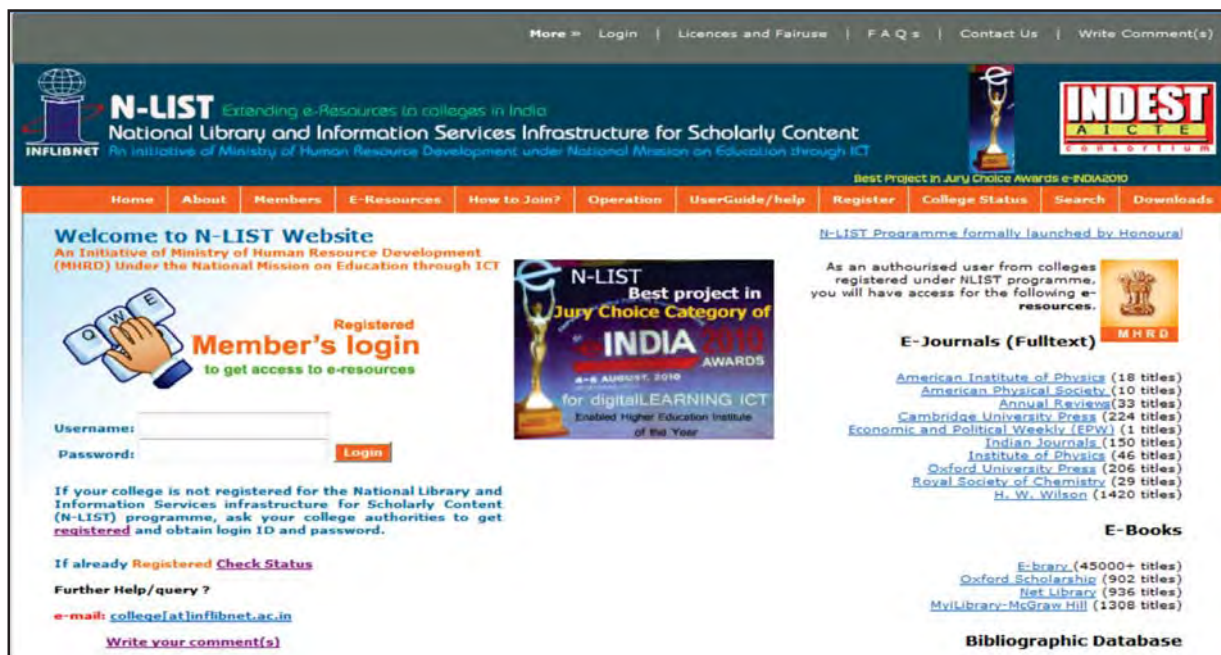


Fig. 30: Screenshot of Website of the N-LIST Programme

The INFLIBNET Centre provides Log-in ID and password to all authorized users of the colleges. The users have to log on to <http://nlist.inflibnet.ac.in> using their usernames and passwords and the list of subscribed resources is made available to them. By clicking the desired resources, the users can access full-text of the journal articles and book chapters subscribed under the programme.

### 14.1.3. Beneficiary Institutions

The following four sets of institutions are benefitting from the N-LIST Project:

- Universities covered under Phase I of the UGC-INFONET Digital Library Consortium can now access Web of Science.
- IITs, IISc, IISERs and selected NITs (i.e. core members of the INDEST-AICTE Consortium) can now access selected e-resources namely Annual Reviews, Project Muse and Nature.
- 6,000 Govt. / Govt.-aided colleges covered under 12(B) section of the UGC Act can now access selected electronic resources including electronic journals, electronic books and bibliographic databases. These resources include more than 2100 e-journals and 51,000 e-books.

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- iv) Colleges, not covered under the 12(B) section of the UGC Act, can benefit by joining the N-LIST programme as its Associate member. These colleges will be required to pay annual membership subscription and a fixed amount towards subscription to e-resources.

#### **14.1.3.1. Cross-subscription to E-resources for Member Institutions of INDEST-AICTE Consortium and UGC-INFONET Digital Library Consortium**

Several e-resources subscribed by the UGC-INFONET Digital Library Consortium are useful to the IITs, IISc, NITs and other technical institutions. Likewise, resources subscribed by the INDEST-AICTE Consortium are useful to users in universities. Besides, several e-resources available through the two Consortia are being subscribed by individual institutions on their own either in e-format or in print. It is, therefore, logical that e-resources available through the two consortia may be cross-subscribed amongst centrally-funded technical institutions and universities. The sub-committee constituted for “Selection of e-Resources for Cross-subscription and for Providing Access to Colleges”, constituted during the first Meeting of the National Steering Committees (NSCs) of the INDEST-AICTE Consortium and UGC-INFONET Digital Library Consortium held on 5<sup>th</sup> September 2008, had identified e-resources each from the two consortia that can be subscribed for technical institutions (IITs, IISc, NITs, etc.) and universities respectively. Under the cross-subscription component of the project, 21 technical institutions are already getting access to Nature Journals, Project Muse and Annual Reviews and 50 universities are getting access to Web of Science.

#### **14.1.3.2. Electronic Resources Subscribed to Colleges under the N-LIST Programme**

Electronic resources subscribed by the N-LIST programme can broadly be divided into the following three categories:

##### **14.1.3.2.1. Full-text Electronic Resources**

Full-text electronic resources contain complete articles along with their bibliographic details. The N-LIST programme subscribes to full-text e-resources from academic societies, commercial publishers and aggregators like American Institute of Physics, American Physical Society, Oxford University Press, Royal Society of Chemistry, Cambridge University Press, H W Wilson, etc. The Table 22 gives names of the Publishers and their number of e-journals subscribed under the N-LIST programme along with the year of backfile access.

SI No.	E-resources	Publishing Country	No. of Journals	Backfiles from
1	American Institute of Physics	USA	18	Five yrs.
2	American Physical Society	USA	10	Five yrs.
2	Annual Reviews	USA	33	Ten yrs.
3	Cambridge University Press	UK	240	Five yrs.
4	Economic and Political Weekly (EPW)	India	1	1966+
5	Indian Journals	India	150	2007+
6	Institute of Physics	UK	46	Vol. 1+
7	MathSciNet (Bibliographic Database)	USA	1	1940+
8	Oxford University Press	UK	206	1996+
9	Royal Society of Chemistry	UK	29	Ten yrs.
10	Wilson Omnifile	USA	1420	1982+
	Total		2154	

**Table 22: List of e-journals subscribed under N-LIST programme**

#### 14.1.3.2.2. Electronic Books

Electronic books are either subscribed on annual subscription basis or purchased on “one-time payment and perpetual access basis”. Total number of electronic books accessible to colleges under N-LIST programme exceeds 51,000 as given in the Table 23.

SI No.	E-resources	Publishing Country	No. of Books	No of Publishers
1	Ebrary	USA	45,100	250
2	McGraw Hill	USA	1,308	1
4	Oxford Scholarship	UK	902	1
3	NetLibrary	USA	936	44
	<b>NetLibrary (open access books)</b>		<b>3,500</b>	<b>1</b>
	Total		51,746	297

**Table 23: List of e-books subscribed under N-LIST programme**

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#### **14.1.3.2.3. Bibliographic Database**

Bibliographic database contains references to articles published in journals, conference proceedings and chapters in books. Most bibliographic databases contain abstracts of the articles along with links to their full-text. N-LIST subscribes to MathSciNet (American Mathematical Society) that covers reviews of articles in mathematics from 1944 onwards.

#### **14.1.4. Current Status**

As on March 15, 2010, a total number of 1,118 colleges have registered themselves with the N-LIST programme including 668 Govt. / Govt.-aided colleges covered under the 12(B) section of the UGC Act. The log-in ID and password for accessing e-resources has been sent to the authorized users of these 668 colleges. The remaining colleges are being advised to join the initiative as N-LIST Associate. All e-resources subscribed for colleges under the N-LIST programme are now accessible to these 668 colleges through the N-LIST website.

#### **14.1.5. Cost-effectiveness of the N-LIST Programme**

The cost-effectiveness of N-LIST programme can be judged by factors such as number of beneficiary colleges, full-time potential users in these colleges, cost of e-resources subscribed and expenditure on e-resources per college and per potential user. The N-LIST programme is a cost-effective proposition because of large number of colleges with large number of potential users, potential for growth and cost avoidance factor. These factors are discussed below in detail:

##### **14.1.5.1. Number of Members under the N-LIST Programme and Potential of Growth**

The N-LIST programme has attracted the best possible price and terms of agreement from the publishers with increase in number of colleges. The rates of subscription to e-resources for most publishers are comparatively high for first 600-1000 colleges being covered in the year 2010. However, rates of subscription are lower once the number of colleges grows from 1,000 to 4,000 and lowest once number of colleges becomes 6,000. Table 24 reflects decrease in rates of subscription from 2010 to 2011 when the number of colleges would increase from 1,000 to 4,000. Likewise, decrease in subscription is also evident from 2011 to 2012 when the number of colleges would increase from 4,000 to 6,000. The percentage of decrease would vary from 5% in case of EPW to 62.50 % in case of Annual Reviews from 2010 to 2011. The percentage of decrease would vary from 7.02% in case of EPW to 52.94% in case of Institute of Physics from 2011 to 2012.



Sl. No.	E-resources	Per college (2010)	Per college (2011)	Per college (2012)	Decrease in subs. from 2010 to 2011 (%)	Decrease in subs. from 2011 to 2012 (%)
		Amount in Rupees				
1	AIP/APS	5829.45	4035.79	2590.87	30.77	35.80
2	Annual Reviews	2084.13	781.55	578.93	62.50	25.93
3	CUP	3676.20	3136.26	1688.76	14.69	46.15
4	EPW	1000.00	950.00	883.33	5.00	7.02
5	Indian Journals	2500.00	1552.50	1470.00	37.90	5.31
6	IOP	1979.26	1168.31	549.80	40.97	52.94
8	OUP	1224.00	1453.50	1132.20	-18.75	22.11
9	RSC	2629.15	1478.90	1095.48	43.75	25.93
10	H.W. Wilson	3780.00	1890.00	1575.00	50.00	16.67
	Total	22170.42	12761.33	11564.36	42.44	9.38

**Table 24: Decrease in cost of Subscription of E-journals under the N-LIST Programme**

#### 14.1.5.2. Lower Rates of Subscription

The N-LIST Programme has used a highly innovative pricing model for subscription to e-resources wherein one subscription (equivalent to one subscription paid for a university in the UGC-INFONET Consortium) is paid for a set of 200 colleges given the fact that extending any of the prevalent pricing models would have been highly expensive, unaffordable and impractical for the college component of the N-LIST Programme.

#### 14.1.5.3. Cost Avoidance

Cost avoidance is calculated in terms of differences in cost paid by the N-LIST programme for colleges and list price of e-resources including e-journals and e-books. The Figure 31 shows that there is a national savings of Rs. 5376.17 crores considering the fact that the same sets of resources on list price would have cost Rs. 5388.41 crores as against Rs. 12.24 crores spent under the N-LIST programme for the year 2010.

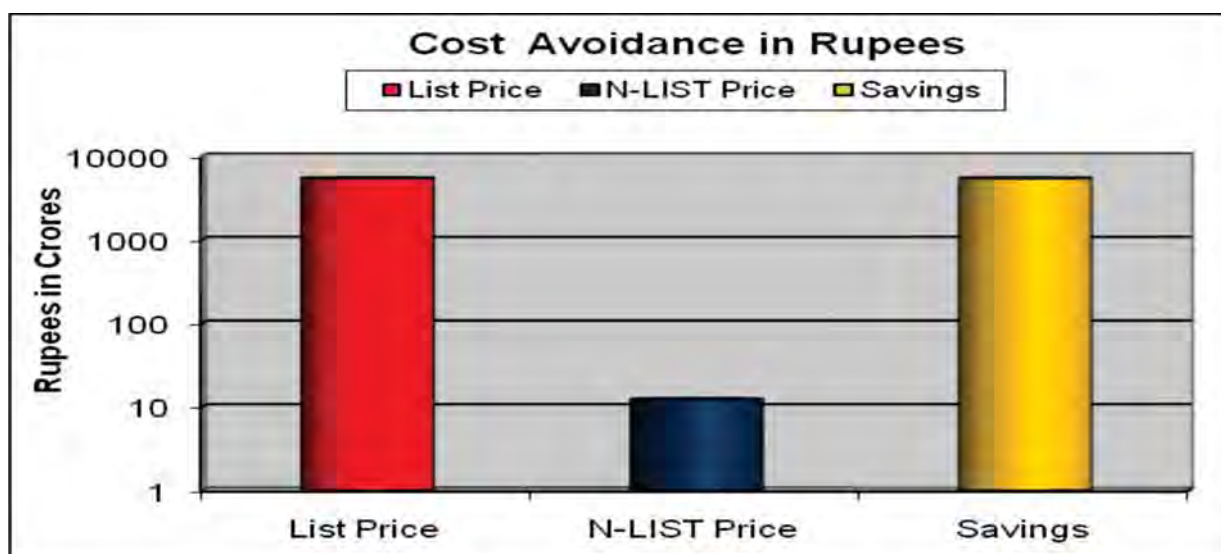


Fig. 31: Cost Avoidance: List Price V/s N-LIST Price

#### 14.1.5.4. Average Cost of E-resources Subscribed under the N-LIST Programme

##### 14.1.5.4.1. Average Cost of Journals Per College

The N-LIST programme subscribes to a total number of 2,137 journals for 1,000 member colleges in the year 2010. The number of colleges would increase to 4,000 in 2011 and to 6,000 in the year 2012. With increase in number of colleges, the cost of subscription would decrease. As such, average cost of a single journal per college computes to Rs. 10.37 in the year 2010, Rs. 5.74 in the 2011 and Rs. 5.41 in the year 2012. Overall average cost of the journals per college is Rs. 17.92. Table 25 provides average cost of journals covered in the resources subscribed under the N-LIST programme.

Sl No.	E-resources	No. of Journals	Per Title / Per College	Per Title / Per College	Per Title / Per College
			Amount in Rupees		
			2010	2011	2012
1	AIP/APS	28	208.19	144.14	92.53
2	Annual Reviews	33	63.16	23.68	17.54
3	CUP	224	16.41	14.00	7.54
4	EPW	1	1000.00	950.00	883.33
5	Indian Journals	150	16.67	10.35	9.80
6	IOP	46	43.03	25.40	11.95
8	OUP	206	5.94	7.06	5.50
9	RSC	29	90.66	33.75	37.78
10	H.W. Wilson	1420	2.66	1.33	1.11
	Total	2137	10.37	5.74	5.41

Table 25: Average Cost of E-journals per College / per Title

#### 2.2.2.2.2. Average cost of E-books

The E-books under the N-LIST programme are purchased for all 6,000 colleges on “one-time purchase and perpetual access basis” except Ebrary which is subscribed on annual subscription basis. The average cost of books per college varies from Rs. 4,800 in case of McGraw Hill to Rs. 15,332 in case of Net Library. Average cost per book per college varies from Rs. 0.21 in case of Ebrary to Rs. 15.55 in case of Net Library. The average expenditure incurred on each college for purchase of 48,296 e-books is Rs. 8,652.97 and the average cost per college per book is Rs. 0.18 (see Table 26).

Sl. No.	E-Books	No of Books	No of colleges	Price per College	Price per College per Title
				Amount in Rupees	
1	Oxford Scholarship	902	6,000	4827.37	5.35
2	McGraw Hill	1,308	6,000	4800.00	3.67
3	Net Library	986	2000	15332.00	15.55
4	Ebrary*	45100	6000	9652.50	0.21

**Table 26: Average Cost of E-books per College / per Book**

### **14.2. Trends in Higher Education: Creation and Analysis of Database of Ph.Ds in the Country: NIAS-INFLIBNET Joint Project**

The INFLIBNET Centre, in collaboration with National Institute of Advanced Studies (NIAS), Bangalore had taken a joint project on “Sharing and Analysis of Bibliographic Records of Theses” funded by the Tata Consultancy Services, Bangalore. The Project was completed and detailed report of the project is being prepared for submission to funding agency. Under the project, the INFLIBNET Centre provided bibliographic records of the Ph.D. theses to NIAS from 1998 to 2007 for finding trends in higher education for 10 years in terms of distribution of researchers by gender, subject, state, region and language. Dr. Anita B K, Fellow, School of Social Sciences, National Institute of Advanced Studies, Bengaluru and Dr. Jagdish Arora, Director, INFLIBNET Centre are Principal Investigators for the Project. Shri Rajesh Chandrakar, Scientist B (LS) from the Centre executed the project at the Centre.

### **14.3. Proposal on Access to E-resources to Selected Colleges and Research Institutions in Maharashtra State, Project funded by the Sir Ratan Tata Trust (SRTT)**

The INFLIBNET Centre took a project from Sir Ratan Tata Trust for drafting a project proposal for extending access to e-resources to selected social science colleges and research institution in Maharashtra state. The Centre selected 40 colleges from different districts of Maharashtra state. These colleges were selected based on the existing network infrastructure in the campus, Ph D programme, No. of PG and UG enrolment and number of faculties, etc. The other parameters for selection of colleges were CPE status and NAAC

accreditation (A and A++ grade). A detailed report has been submitted to the SRTT with budget proposition for extending access to e-resources to colleges selected under the project for a period of three years. Dr. Jagdish Arora, Director, INFLIBNET Centre and Dr. Ajit Kembhavi, Director, IUCAA, Pune are Project Investigators for the Project.

## **15. Other Notable Activities and Events**

### **15.1. Independence Day Celebration**

The INFLIBNET staff and their families celebrated 63<sup>rd</sup> Independence Day of the Nation at the Centre on 15<sup>th</sup> August 2009. Sh. Manoj Kumar, Scientist-D (CS) of the Centre hoisted the national flag and addressed the gathering consisting of staff and their family members.

### **15.2. Republic Day Celebration**

The Centre celebrated 62<sup>nd</sup> Republic Day of the Nation on Tuesday, 26<sup>th</sup> January 2010 in its campus. Dr. Jagdish Arora, Director of the Centre hoisted the national flag and addressed the gathering. Staff members of the Centre with their families attended the function. A number of social events were organised during the event. All staff members and their children participated in the events.



**Fig. 32: Dr. Jagdish Arora, Director, INFLIBNET Centre addressing the staff and their families. Shri Manoj Kumar K and Shri Ashok Kumar Rai, Scientist D (CS) of the Centre are also present.**



### 15.3. Navratri Garba

The Centre celebrated Navratri Garba festival on 24<sup>th</sup> September 2009 at its campus. The INFLIBNET staff and their family along with Director and his family joined the function. The function began with the Pooja and every one present in the campus participated in the Pooja and Garba.



**Fig. 33: Dr. Jagdish Arora, Director, INFLIBNET Centre and his family along with Staff and their families performing pooja during Navratri Garba celebration.**

### 16. Right to Information (RTI) Act

In order to promote transparency and accountability in the working of public authority and to empower the citizens to secure access to information under control of each public authority, the Government of India has brought out “the Right to Information Act, 2005”. In accordance with the provisions of section 4(1) (b) of this Act, the INFLIBNET has put information and guidance of the stakeholders and the general public and hosted the same on the website of the Centre at <http://www.inflibnet.ac.in>. In terms of section 5(2) of the Right to Information Act, 2005, the Director of the INFLIBNET Centre has been designated as Appellate Authority / Nodal Officer for all matters concerning to the Centre. The detailed information about RTI and responsible officers appointed for are available on the Centre’s website at <http://www.inflibnet.ac.in>.



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## 17. Financial Status

The Audited Annual Accounts of INFLIBNET Centre for the financial year 2009-2010 is given in the **Appendix XIV**.

### Building Committee

**Prof. S K Khanna (Chairman)**

Jaypee Institute of Information  
Technology Campus  
A-10, Sector – 62  
Noida

**Dr. Parimal H Trivedi**

Vice-Chancellor  
Gujarat University  
Ahmedabad

**Dr. Jagdish Arora**

Director  
INFLIBNET Centre  
Ahmedabad

**Dr. R K Chadha**

Joint Secretary  
Lok Sabha  
New Delhi

**Dr. M N Patel**

Principal  
L D Engineering College and  
Vice Chancellor  
Gujarat Technological University  
Ahmedabad

**Shri C K Shah (Convener)**

Admn. Officer (P&A)  
INFLIBNET Centre  
Ahmedabad

**Shri Y P Pathak**

Central Public Work Department  
Gandhinagar

**Prof. H A Ranganath**

Director  
NAAC, Bengaluru

**Shri Rajeev Kathpalia**

Architect  
Vaastu-Shilpa Consultants  
Ahmedabad  
(Rep. of Architects)

**Shri Ashok Kumar Rai**

Scientist D (CS)  
INFLIBNET Centre  
Ahmedabad

**Shri D P Negi**

Admn. Officer (F)  
INFLIBNET Centre  
Ahmedabad

## Appendix II

### Governing Council (As on 31.03.2010)

**Prof. S K Thorat** (President)  
Chairman  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Prof. Ved Prakash**  
Vice-Chairman  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Prof. S S Mantha**  
**Chairman (Acting), AICTE**  
Chanderlok Building, Janpath  
New Delhi

**Dr. Samir K Brahmachari**  
Director General, CSIR  
Anusandhan Bhawan  
New Delhi

**Prof. Javeed Alam**  
Chairman, ICSSR  
JNU Institutional Area  
New Delhi

**Prof. Swapan Chakravorty**  
Director  
National Library  
Belvedr, Kolkatta

**Prof. B P Sanjay**  
Vice-Chancellor  
Central University of Tamil Nadu  
C/o Collectorate Annexe  
Tiruvarur

**Prof. V G Talawar**  
Vice Chancellor  
University of Mysore  
Mysore

**Dr. T R Kem**  
Director  
Consortium for Educational  
Communication (CEC)  
IUAC, NSC Campus  
New Delhi

**Dr. Jagdish Arora** (Member Secretary)  
Director  
INFLIBNET Centre  
Ahmedabad

P.S.: All Members of the Governing Board are also members of the Governing Council.

### Governing Board (As on 31.03.2010)

**Prof. S K Khanna** (Chairman)  
Jaypee Institute of Information  
Technology Campus  
A-10, Sector – 62  
Noida

**Prof. Ved Prakash**  
Vice-Chairman  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Dr. (Ms) Niloufer Adil Kazmi**  
**Secretary**  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Dr. Parimal H Trivedi**  
Vice Chancellor  
Gujarat University, Navrangpura  
Ahmedabad

**Shri Dinesh Paliwal**  
**Member Secretary**  
AICTE  
Chanderlok Building, Janpath  
New Delhi

**Prof. R K Kale**  
Vice-Chancellor  
Central University of Gujarat  
Sector 30, Gandhinagar

**Prof. N Prabhu Dev**  
Vice Chancellor  
Bangalore University, Bangalore  
Karnataka

**Dr. D P Kothari**  
Advisor to Chancellor  
VIT University  
Vellore, Tamil Nadu

**Dr. S Majumdar**  
Librarian  
Delhi University Library System  
University of Delhi, Dew Delhi

**Prof. J P Gupta**  
Vice Chancellor  
Jaypee Institute of Information Technology  
University  
A-10, Sector 62, Noida

**Shri R S Mani**  
Scientific F (Operation & Routing Unit)  
National Informatics Centre (NIC)  
Lodhi Road, New Delhi

**Prof. H A Ranganath**  
Director  
NAAC, Bengaluru

**Dr. Jagdish Arora**  
Director (Member Secretary)  
INFLIBNET Centre  
Ahmedabad

### Finance Committee (As on 31.03.2009)

**Prof. S K Khanna** (Chairman)

Jaypee Institute of Information  
Technology Campus  
A-10, Sector – 62  
Noida

**Dr. (Ms.) Niloufer Adil Kazmi**

Secretary  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Sh. A K Dogra**

Financial Adviser  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Prof. J P Gupta**

Vice Chancellor  
Jaypee Institute of Information Technology  
University  
A-10, Sector 62, Noida

**Dr. P Prakash**

Addl. Secretary (IUC) &  
Director (Admin)  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Dr. Jagdish Arora**

Director  
INFLIBNET Centre  
Ahmedabad

**Sh. Manoj Kumar K**

Scientist-D (CS)  
INFLIBNET Centre  
Ahmedabad

**Sh. D P Negi** (Non-Member Secretary)

Admin Officer (Finance)  
INFLIBNET Centre  
Ahmedabad



## Appendix V

### Technical, Administrative and Supporting Staff (As on 31.03.2010)

Scientific & Technical Staff		
Sr. No.	Name of the employee	Designation
1.	Dr. Jagdish Arora	Director
2.	Shri Manoj Kumar K.	Scientist-D (CS)
3.	Shri Prem Chand	Scientist-D (LS) (on lien from 30.03.2009)
4.	Shri Ashok Kumar Rai	Scientist D (CS)
5.	Shri Yatrik R. Patel	Scientist-C (CS)
6.	Shri H. G. Hosamani	Scientist-B (LS)
7.	Shri Rajesh Chandrakar	Scientist-B (LS)
8.	Shri Abhishek Kumar	Scientist-B (CS)
9.	Mrs. Vaishali. A. Shah	S.T.O – I (LS)
10.	Shri Dinesh Ranjan Pradhan	S.T.O – I (LS) since 04.05.2009
11.	Mrs. Hema Cholin	STA-II (LS)
Administrative & Support Staff		
1.	Shri C. K. Shah	Admn. Officer (P&A)
2.	Shri D. P. Negi	Admn. Officer (F)
3.	Shri Ashok P. Achtani	Section Officer (P)
4.	Shri Sanjay R. Shah	Office Assistant-II
5.	Shri S.F. Vanikar	Office Assistant-II
6.	Smt. S. M. Munshi	Personal Assistant
7.	Mrs. Yamini J. Dave	Clerk-cum- Typist
8.	Mrs. R. B. Pendharkar	Clerk-cum- Typist
9.	Shri Ankur B. Parikh	Clerk-cum- Typist
10.	Shri Shyam T. Yadav	Helper
11.	Shri Vinod B. Dantani	Helper
12.	Shri Bakul M. Parmar	Lab Attendant

<b>Contractual Staff in Computer Science</b>		
1.	Shri Swapnil P. Patel	Project Officer (CS)
2.	Ms. Heli Harishkumar Banker	Project Officer (CS)
3.	Shri. Ramiz Malik	Project Officer (CS) since 12.01.2010
4.	Ms. Rachna Shelat	Project Officer (CS) since 18.01.2010
5.	Shri Rushi M. Bhatt	Project Officer (CS) since 04.02.2010
6.	Ms. Daksha Halpati	Project Associate (CS)
7.	Shri Mayur Gohel	SOUL Technical Assistant (CS)
8.	Shri Dharmeshkumar A. Shah	Project Asst. (CS) since 22.12.2009
9.	Shri Vijaykumar M Shrimali	SOUL Technical Assistant (CS)
10.	Ms. Nabila Shaikh	SOUL Technical Assistant (CS) since 01.04.2009
11.	Shri Mohit Kumar	Project Assistant (CS)
12.	Ms. Leena Parmar	Project Asst. (CS) since 01.01.2010
<b>Contractual Staff in Computer Science</b>		
1.	Ms. Kruti J. Trivedi	Project Officer (LS)
2.	Shri Saroj Kumar Panda	Project Asst. (LS) since 23.12.2009
3.	Ms. Reshma S. Panchal	Project Assistant (LS)
4.	Ms. Kanchan Chavda	Project Assistant (LS) since 12.10.2009
5.	Shri Pallab Pradhan	Project Associate (LS) since 18.01.2010
6.	Shri Kamlesh Vegad	Technical Asst. (LS) since 01.04.2009
7.	Ms. Seema Chavda	Project Asst. (LS) since 01.01.2010

## Appendix VI

### No. of Records Contributed by the Participating Universities to the Books and Theses Databases of the Centre

Sr. No.	Name of the University	Books Records	Theses Records
1.	Acharya N G Ranga Agricultural University, Nagarjunanagar, AP	224	
2.	Acharya Nagarjuna University, Guntur, Andhra Pradesh	32794	538
3.	Alagappa University, Karaikudi, Tamil Nadu	43635	90
4.	Aligarh Muslim University, Aligarh, Uttar Pradesh	162157	9653
5.	All India Institute of Medical Sciences, New Delhi		208
6.	Amravati University (Sant Gadge Baba Amravati Univ.), Amravati, Maharashtra	115909	127
7.	Andhra University, Vishakhapatnam, Andhra Pradesh	216049	5891
8.	Anna University, Chennai, Tamil Nadu	98640	716
9.	Annamalai University, Annamalai Nagar, Tamil Nadu	473810	2241
10.	Assam Agricultural University, Jorhat, Assam		84
11.	Assam University, Silchar, Assam	20000	99
12.	Avinashilingam Deemed University for Women, Coimbatore, Tamil Nadu	82452	95
13.	Awadesh Pratap Singh Vishwavidyalaya, Rewa, MP		976
14.	B N Mandal University, Madhepura, Bihar		340
15.	Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur, Bihar		864
16.	Babasaheb Bhimrao Ambedkar University, Lucknow, UP	15850	12
17.	Banaras Hindu University, Varanasi, UP	445000	14526
18.	Banasthali Vidyapith, Banasthali, Rajasthan	75620	109
19.	Bangalore University, Bengaluru, Karnataka	130000	1551
20.	Barkatullah Vishwavidyalaya, Bhopal, Madhya Pradesh		968
21.	Bengal Engineering and Science University, Howarha, WB		5
22.	Berhampur University, Berhampur, Orissa		379
23.	Bharathiar University, Coimbatore, Tamil Nadu	87115	68
24.	Bharathidasan University, Tiruchirapalli, Tamil Nadu	21180	125
25.	Bharati Vidyapeeth, Pune, Maharashtra	20215	12
26.	Bhavnagar University, Bhavnagar, Gujarat	36213	669
27.	Bidhan Chandra Krishi Vishwavidyalaya, Nadia, WB		406
28.	Birla Institute of Technology Mesra, Ranchi, Jharkhand		5
29.	Birla Institute of Technology & Science, Pilani, Rajasthan	72015	264
30.	Birsa Agricultural University, Ranchi, Jharkhand		87
31.	Burdwan University, Burdwan, West Bengal	45000	
32.	Central Drug Research Institute, Lucknow, UP		45

Sr. No.	Name of the University	Books Records	Theses Records
33.	Central Institute of English & Foreign Languages, Hyderabad	50000	103
34.	Central Institute of Fisheries Education, Mumbai		2
35.	Chaudhary Charan Singh Haryana Agricultural University, Hissar, Haryana		1047
36.	Ch. Charan Singh University, Meerut, UP		1924
37.	Ch. Sarwan Kumar Himachal Pradesh Krishi Vishwavidyalaya, Palampur, Himachal Pradesh		47
38.	Chandra Shekhar Azad University of Agriculture & Technology, Kanpur, UP		371
39.	Chhatrapati Shahu Ji Maharaj Kanpur University, Kanpur, UP	5000	2073
40.	Cochin University of Science & Technology, Kochi, Kerala	72693	1008
41.	Dakshina Bharat Hindi Prachar Sabha, Chennai, Tamil Nadu		23
42.	Dayalbagh Educational Institute, Agra, Uttar Pradesh		96
43.	Deccan College Post Graduate & Research Institute, Pune, Maharashtra	140000	102
44.	Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur, UP	15992	1626
45.	Defence Science Centre, Delhi		13
46.	Dev Sanskrit Vishwavidyalaya, Dehradun, Uttaranchal		1
47.	Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh	18000	2207
48.	Dhirubhai Ambani Institute of Information Communication Technology, Gandhinagar, Gujarat		2
49.	Dibrugarh University, Dibrugarh, Assam	57466	520
50.	Dr Babasaheb Ambedkar Marathwada University, Aurangabad, Uttar Pradesh	36015	1896
51.	Dr Bhim Rao Ambedkar University, Agra, UP	133000	3675
52.	Dr Harisingh Gour Vishwavidyalaya, Sagar, Madhya Pradesh		2178
53.	Dr Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharashtra		195
54.	Dr Ram Manohar Lohia Awadh University, Faizabad, UP		365
55.	Dr Y S Parmar University of Horticulture & Forestry, Solan, HP		382
56.	Dravidian University, Kuppam, Andhra Pradesh		1
57.	Fakir Mohan University, Balasore, Orissa		14
58.	Forest Research Institute, Dehradun, Uttaranchal		257
59.	Gandhigram Rural Institute, Gandhigram, Tamil Nadu	166196	182
60.	Gauhati University, Guwahati, Assam	10000	2516
61.	Goa University, Goa	109886	134
62.	Gokhale Institute of Politics & Economics, Pune, Maharashtra	246000	3
63.	Govind Ballabh Pant University of Agriculture & Technology, Pant Nagar, Uttaranchal		622
64.	Gujarat Agricultural University, Anand, Gujarat		152
65.	Gujarat Ayurved University, Jamnagar, Gujarat		168
66.	Gujarat University, Ahmedabad, Gujarat	250000	1336

Sr. No.	Name of the University	Books Records	Theses Records
67.	Gujarat Vidyapith, Ahmedabad, Gujarat	441872	44
68.	Gulbarga University, Gulbarga, Karnataka	84964	390
69.	Guru Angad Dev Veterinary and Animal Science University, Hissar, Haryana		6
70.	Guru Ghasidas University, Bilaspur, Chhattisgarh	30895	1792
71.	Guru Gobind Singh Indraprasth University, Delhi	17374	
72.	Guru Jambheshwar University, Hissar, Haryana	17507	95
73.	Guru Nanak Dev University, Amritsar, Punjab	122302	584
74.	Gurukula Kangri Vishwavidyalaya, Haridwar, Uttaranchal	90372	127
75.	Hemchandracharya North Gujarat University, Patan, Gujarat	50071	527
76.	Hemwati Nandan Bahuguna Garhwal University, Pauri, Garhwal, Uttaranchal		456
77.	Himachal Pradesh Krishi Vishwavidyalaya, Palampur, Himachal Pradesh		338
78.	Himachal Pradesh University, Shimla, Himachal Pradesh	46582	1195
79.	Indian Institute of Advanced Study, Shimla, Himachal Pradesh	69693	
80.	Indian Agricultural Research Institute , New Delhi		1997
81.	Indian Institute of Science, Bengaluru, Karnataka		2175
82.	Indian Institute of Technology Bombay, Mumbai, Maharashtra		1160
83.	Indian Institute of Technology Roorkee, Roorkee, UP	70000	2458
84.	Indian Institute of Technology Madras, Chennai, Tamil Nadu		1695
85.	Indian Institute of Technology Delhi, New Delhi		2341
86.	Indian Institute of Technology Kanpur, Kanpur, UP		1059
87.	Indian Institute of Technology Kharagpur, Kharagpur, WB		1448
88.	Indian Institute of Tropical Meteorology, Pune, Maharashtra		2
89.	Indian School of International Studies, New Delhi		47
90.	Indian School of Mines, Dhanbad, Jharkhand		367
91.	Indian Statistical Institute , Kolkata, WB		125
92.	Indian Veterinary Research Institute, Izatnagar, UP		111
93.	Indira Kala Sangit Vishwavidyalaya, Khairagarh, Chhattisgarh	13697	136
94.	Indian Institute of Toxicology Research (Industrial Toxicology Research Center), Lucknow, UP		9
95.	International Institute of Population Science, Mumbai	51139	119
96.	Jadavpur University, Jadavpur, West Bengal	223670	1292
97.	Jai Narian Vyas University, Jodhpur, Rajasthan	4823	1434
98.	Jai Prakash Vishwavidyalaya, Chapra, Bihar		5
99.	Jain Vishva Bharati Institute, Ladnun, Rajasthan	4715	43
100.	Jamia Hamdard University, Delhi	37487	323
101.	Jamia Milia Islamia, New Delhi	64177	622
102.	Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur, MP		204
103.	Jawaharlal Nehru Technological University, Hyderabad		88

Sr. No.	Name of the University	Books Records	Theses Records
104.	Jawaharlal Nehru University, New Delhi	311067	3380
105.	Jiwaji University, Gwalior, Madhya Pradesh	25000	1368
106.	Kakatiya University, Warangal, Andhra Pradesh	56837	2208
107.	Kameshwar Singh Darbhanga Sanskrit University, Darbhanga, Bihar	1351	224
108.	Kannada University, Hampi, Karnataka	34877	140
109.	Kannur University, Kannur, Kerala		67
110.	Karnataka State Open University, Mysore, Karnataka		49
111.	Karnataka University, Dharwad, Karnataka	145111	2477
112.	Kavikulguru Kalidas Sanskrit Vishvavidyalaya, Ramtek, Nagpur, Maharashtra		2
113.	Kerala Agricultural University, Ernakulam, Kerala		123
114.	Konkan Krishi Vidyapeeth, Dapoli, Maharashtra		24
115.	Kumaun University, Nainital, Uttarakhand	5000	970
116.	Kurukshetra University, Kurukshetra, Haryana	200000	4091
117.	Kuvempu University, Kuvempu, Karnataka	46693	791
118.	Lalit Narayan Mithila University, Darbhanga, Bihar		178
119.	Laxmibai National Institute of Physical Education, Gwalior, MP		3
120.	M J P Rohilkhand University, Bareilly, Uttar Pradesh		1524
121.	Madhya Pradesh Bhoj (Open) University, Bhopal, MP		3
122.	Madurai Kamraj University, Madurai, Tamil Nadu	194525	953
123.	Magadh University, Bodhgaya, Bihar		1112
124.	Maharaja Sayajirao University of Baroda, Vadodara, Gujarat	456046	17545
125.	Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan		131
126.	Maharashtra Animal & Fishery Science University, Mumbai		3
127.	Maharshi Dayanand Saraswati University, Ajmer, Rajasthan	27095	48
128.	Mahatma Gandhi Gramoday Vishwavidyalaya, Chitrakoot, Madhya Pradesh	5000	
129.	Maharshi Dayanand University, Rohtak, Haryana		1600
130.	Maharshi Mahesh Yogi Vedic University, Noida, Uttar Pradesh		2
131.	Mahatma Gandhi Kashi Vidyapeeth, Varanasi, Uttar Pradesh		142
132.	Mahatma Gandhi University, Kottayam, Kerala	70439	12
133.	Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra		406
134.	Makhanlal Chaturvedi National University of Journalism, Bhopal		15
135.	Mangalore University, Mangalore, Karnataka	35649	568
136.	Manipal Academy of Higher Education (Deemed University), Manipal, Karnataka		7
137.	Manipal University, Manipal, Karnataka		6
138.	Manipur University, Imphal, Manipur	64916	1086



Sr. No.	Name of the University	Books Records	Theses Records
139.	Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu	42344	43
140.	Maulana Azad National Urdu University, Hyderabad, Andhra Pradesh	9261	
141.	Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra		479
142.	Mizoram University, Aizwal	19585	24
143.	Mohanlal Sukhadia University, Udaipur, Rajasthan	66652	791
144.	Mother Teresa Women's University, Kodaikanal, Kerala	34113	7
145.	Nagaland University, Kohima, Nagaland	15556	27
146.	Nagpur University, Nagpur, Maharashtra		10293
147.	Narendra Deva University of Agricultural & Technology, Faizabad, Uttar Pradesh		118
148.	National Botanical Research Institute, Lucknow, UP		3
149.	National Brain Research Centre, Manesar, Gurgaon, Haryana		3
150.	National Chemical Laboratory, Pune, Maharashtra		16
151.	National Dairy Research Institute, Karnal, Haryana		170
152.	National Institute of Mental Health & Neuro Sciences, Bengaluru, Karnataka		180
153.	National Institute of Pharmaceutical Education and Research, Hyderabad, Andhra Pradesh		69
154.	National Institute of Technology Rourkela, Jharkhand		3
155.	National Institute of Technology, Silchar, Assam		9
156.	National Sugar Institute, Kanpur, Uttar Pradesh		3
157.	North-Eastern Hill University, Shilong	84523	920
158.	North Maharashtra University, Jalgaon, Maharashtra	35000	212
159.	North Orissa University, Mayurbhanj, Orissa		5
160.	Orissa University of Agriculture & Technology, Bhubaneswar, Orissa		102
161.	Osmania University, Hyderabad, Andhra Pradesh	102741	6805
162.	Pandit Ravishanker Shukla University, Raipur, Chhattisgarh	156564	1008
163.	Punjab Agricultural University, Ludhiana, Punjab		1629
164.	Panjab University, Chandigarh	205168	3350
165.	Patna University, Patna, Bihar		727
166.	Pondicherry University, Puducherry	37174	29
167.	Post Graduate Institute of Medical Education and Research, Chandigarh		306
168.	Potti Sreeramulu Telugu University, Hyderabad, AP	25936	119
169.	Punjabi University, Patiala, Punjab	34254	1006
170.	Rabindra Bharati University, Howarha, West Bengal	16924	425
171.	Rajasthan Agricultural University, Bikaner, Rajasthan		167
172.	Rajeev Gandhi University, Doimukh, Arunachal Pradesh	25000	61
173.	Rajendra Agricultural University, Samastipur, Bihar		160
174.	Rajiv Gandhi Proudhyogiki Vishwvidyalaya, Bhopal, MP		41

Sr. No.	Name of the University	Books Records	Theses Records
175.	Raman Research Institue, Bengaluru, Karnataka		5
176.	Ranchi University, Ranchi, Jharkhand	60554	336
177.	Rani Durgavati Vishwavidyalaya, Jabalpur, Madhra Pradesh	20000	1783
178.	Rashtrasant Tukadoji Maharaj Nagpur University, Maharashtra	202803	
179.	Rashtriya Sanskrit Sansthan, Janakpuri, New Delhi		35
180.	Rashtriya Sanskrit Vidyapeetha, Tirupati, Andhra Pradesh	16690	76
181.	Sambalpur University, Sambalpur, Orissa	32993	820
182.	Sampurnanand Sanskrit Vishwavidyalaya, Varanasi, UP	10000	80
183.	Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat	144472	925
184.	Satyabhama University (Satyabhama Institute of Science and Technology), Chennai, Tamil Nadu		2
185.	Saurashtra University, Rajkot, Gujarat	20965	1117
186.	School of Planning and Architecture, New Delhi		1
187.	Sher-e-Kashmir University of Agricultural Sceince and Technology, Jammu, J&K		36
188.	Shivaji University , Kolhapur, Maharashtra	60506	1155
189.	SNDT University, Mumbai, Maharashtra	70577	667
190.	Shri Jagannath Sanskrit Visvadyalaya, Puri, Orissa		62
191.	Siddhu Kanhu University, Dumka, Jharkhand		2
192.	Sikkim-Manipal University of Health, Medical & Technological Sciences, Gangtok, Sikkim		4
193.	Sree Chitra Tirunal Institute for Medical Science and Technology, Travancore, Kerala		7
194.	Sree Sankaracharya University of Sanskrit, Kalady, Kerala		1
195.	Sri Krishnadevaraya University, Anantapura, Andhra Pradesh	35167	343
196.	Sri Padmavati Mahila Visvavidyalayam, Tirupati, AP	37088	30
197.	Sri Sathya Sai University (Sri Sathya Sai Institute of Higher Learning), Anantpur, Andhra Pradesh	28937	32
198.	Sri Venkateswara University, Tirupati, Andhra Pradesh	88864	2539
199.	Swami Ramanand Teerth Marathwad University, Nanded, Maharashtra	44651	434
200.	Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu		404
201.	Tamil Nadu Dr M G R Medical University, Anna Salai, Chennai, Tamil Nadu		3
202.	Tamil Nadu Veterinary and Animal Sciences University, Chennai, Tamil Nadu		162
203.	Tamil University, Thanjavur, Tamil Nadu	7222	
204.	Tata Institute of Funadamental Research, Mumbai, Maharashtra		20
205.	Tata Institute of Social Sciences, Mumbai, Maharashtra	56423	72
206.	Tezpur University, Tezpur, Assam	25888	82
207.	Thapar University, Patiala, Punjab	16806	26

Sr. No.	Name of the University	Books Records	Theses Records
208.	Tilak Maharashtra Vidyapeeth, Pune, Maharashtra	63777	5
209.	Tilka Manjhi Bhagalpur University, Bhagalpur, Bihar	3147	418
210.	Tripura University, Suryamaninagar, Tripura		37
211.	University of Agricultural Sciences, Bengaluru, Karnataka		328
212.	University of Agricultural Sciences, Dharwad, Karnataka		35
213.	University of Allahabad, Allahabad, Uttar Pradesh	5300	1947
214.	University of Bundelkhand, Bundelkhand, Uttar Pradesh	30110	300
215.	University of Burdwan, Burdwan, West Bengal		3385
216.	University of Calcutta, Kolkata, West Bengal	15690	8514
217.	University of Calicut, Calicut, Kerala	27801	848
218.	University of Delhi, Delhi	688174	16850
219.	University of Hyderabad, Hyderabad, Andhra Pradesh	376217	501
220.	University of Jammu, Jammu, J&K	110643	4958
221.	University of Kalyani, Kalyani, West Bengal	4323	344
222.	University of Kashmir, Srinagar, J&K	310853	353
223.	University of Kerala, Thiruvananthapuram, Kerala	131249	1450
224.	University of Lucknow, Lucknow, Uttar Pradesh		2605
225.	University of Madras, Chennai, Tamil Nadu	50000	3948
226.	University of Mumbai, Mumbai, Maharashtra	827773	6012
227.	University of Mysore, Mysore, Karnataka	129945	1035
228.	University of North Bengal, Jalpaiguri, West Bengal	178357	769
229.	University of Pune, Pune, Maharashtra	35592	3120
230.	University of Rajasthan , Jaipur, Rajasthan		2360
231.	Utkal University, Bhubaneswar, Orissa		1648
232.	Utkal University of Culture, Bhubaneswar, Orissa		1
233.	Uttar Pradesh Technical University, Lucknow, Uttar Pradesh		37
234.	Vardhaman Mahaveer Open University, Kota, Rajasthan		42
235.	Veer Kunwar Singh University, Ara, Bihar		58
236.	Veer Narmad South Gujarat University, Surat, Gujarat	200567	233
237.	Vellore Institute of Technology, Vellore, Tamil Nadu		3
238.	Vidyasagar University, Vidyasagar, West Bengal	41320	207
239.	Vikram University, Ujjain, Madhya Pradesh		1930
240.	Vinoba Bhave University, Hazaribag, Jharkhand		293
241.	Visvesvaraya Natioanl Institute of Technology, Nagpur, Maharashtra		33
242.	Visva Bharati University, Shanti Niketan, West Bengal	24336	525
243.	Yashwantrao Chavan Maharashtra Open University, Nasik, Maharashtra	39475	60
	<b>Total</b>	<b>1,18,10,898</b>	<b>2,38,495</b>

## Appendix VII

### State-Wise list of the SOUL Installation

Sr No.	Name of the State	Installation	1 <sup>st</sup> April, 09 to 31 <sup>st</sup> March, 10	Total
1.	Jammu & Kashmir	46		46
2.	Himachal Pradesh	13	16	29
3.	Punjab	110	4	114
4.	Haryana	30	2	32
5.	Uttaranchal	14		14
6.	New Delhi	27	3	30
7.	Uttar Pradesh	33	12	45
8.	Rajasthan	38	3	41
9.	Gujarat	462	79	541
10.	Daman	2		2
11.	Madhya Pradesh	138	22	160
12.	Bihar	9	1	10
13.	Chhattisgarh	10	2	12
14.	Jharkhand	3	2	5
15.	Maharashtra	244	19	263
16.	Goa	1	2	3
17.	Andhra Pradesh	198	6	204
18.	Karnataka	25	3	28
19.	Kerala	105	14	119
20.	Tamil Nadu	26		26
21.	Pondicherry	3		3
22.	Orissa	7	1	8
23.	West Bengal	68	8	76
24.	North Eastern States	146	45	191
25.	Assam (Paid)	5	6	11
26.	Meghalaya		1	1
27.	Mizoram		1	1
26.	Nepal	1		1
	<b>Total</b>	<b>1764</b>	<b>252</b>	<b>2016</b>

## Appendix VIII

### Universities and IUCs that are provided Internet Bandwidth under the UGC-Infonet Connectivity Programme & E-resources under UGC-INFONET Digital Library Consortium

Sr. No.	Name of University	Current Bandwidth	No. of E-Resources
1.	Acharya Nagarjuna University, Nagarjunanagar, Andhra Pradesh	SCPC 1 Mbps	15
2.	Alagappa University, Karaikudi, Tamil Nadu	LL-2 Mbps (1:1)	13
3.	Aligarh Muslim University, Aligarh, UP	LL-2 Mbps (1:1)	24
4.	Andhra University, Visakhapatnam, AP	LL-2 Mbps (1:1)	24
5.	Anna University, Tamil Nadu	LL-2 Mbps (1:1)	23
6.	Annamalai University, Annamalainagar, Tamil Nadu	LL-2 Mbps (1:1)	18
7.	Assam University, Silchar, Assam	LL-2 Mbps (1:1)	23
8.	Avinashilingam University for Women, Coimbatore, Tamil Nadu	LL-2 Mbps (1:1)	21
9.	Awadhesh Pratap Singh University, Rewa, Madhya Pradesh	BB VSAT 256 Kbps	14
10.	B.N. Mandel University, Madhepura, Bihar	LL-2 Mbps (1:1)	—
11.	Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur, Bihar	BB VSAT 256 Kbps	Discontinued
12.	Babasaheb Bhimrao Ambedkar University, Lucknow, UP	LL-2 Mbps (1:1)	4
13.	Banaras Hindu University, Varanasi, UP	LL-2 Mbps (1:1)	25
14.	Banasthali Vidyapith, Banasthali, Rajasthan	LL-2 Mbps (1:1)	17
15.	Bangalore University, Bengaluru, Karnataka	LL-2 Mbps (1:1)	25
16.	Barkatullah University, Bhopal, Madhya Pradesh	LL-2 Mbps (1:1)	10
17.	Bengal Engineering & Science University, Howrah, West Bengal	LL-2 Mbps (1:1)	3
18.	Berhampur University, Berhampur, Orissa	BB VSAT 256 Kbps	13
19.	Bharathiar University, Coimbatore, Tamil Nadu	SCPC 512 Kbps	16
20.	Bharati Vidyapeeth, Pune, Maharashtra	LL-2 Mbps (1:1)	7
21.	Bharatidasan University, Tiruchirapalli, Tamil Nadu	LL-2 Mbps (1:1)	16
22.	Bhavnagar University, Bhavnagar, Gujarat	BB VSAT 256 Kbps	17
23.	Birla Institute of Technology & Science, Pilani, Rajasthan	LL-2 Mbps (1:1)	22

<b>Sr. No.</b>	<b>Name of University</b>	<b>Current Bandwidth</b>	<b>No. of E-Resources</b>
24.	Birla Institute of Technology, Ranchi, Jharkhand	LL-2 Mbps (1:1)	15
25.	Bundelkhand University, Jhansi, UP	LL-2 Mbps (1:1)	17
26.	Calcutta University, Calcutta, West Bengal	LL-2 Mbps (1:1)	25
27.	Central Institute of Higher Tibetan Studies, Varanasi, UP	SCPC 512 Kbps	4
28.	Chaudhary Charan Singh University, Meerut, UP	LL-2 Mbps (1:1)	16
29.	Chhatrapati Shahu Ji Maharaj Kanpur University, Kanpur, UP	LL-2 Mbps (1:1)	15
30.	Cochin University of Science & Technology, Cochin, Kerala	LL-2 Mbps (1:1)	23
31.	Dayalbaugh Educational Institute, Agra, UP	LL-2 Mbps (1:1)	16
32.	Deccan College Post Graduate & Research Institute, Pune, Maharashtra	LL-2 Mbps (1:1)	4
33.	Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh	LL-2 Mbps (1:1)	22
34.	Dibrugarh University, Dibrugarh, Assam	LL-2 Mbps (1:1)	23
35.	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra	LL-2 Mbps (1:1)	17
36.	Dr. Babasaheb Ambedkar Technology University, Lonere, Maharashtra	LL-2 Mbps (1:1)	—
37.	Dr. Bhim Rao Ambedkar University, Paliwal Park Campus, Agra, UP	LL-2 Mbps (1:1)	7
38.	Dr. Ram Manohar Lohia Avadh University, Faizabad, UP	BB VSAT 256 Kbps	13
39.	Dr. Harisingh Gaur Vishwavidyalaya, Sagar, Madhya Pradesh	BB VSAT 256 Kbps	8
40.	English & Foreign Languages University (EFLU), Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)	9
41.	Gauhati University, Guwahati, Assam	LL-2 Mbps (1:1)	25
42.	Gandhigram Rural Institute, Gandhigram, Tamil Nadu	LL-2 Mbps (1:1)	9
43.	Goa University, Goa	LL-2 Mbps (1:1)	24
44.	Gokhale Institute of Politics & Economics, Pune, Maharashtra	LL-2 Mbps (1:1)	9
45.	Gujarat University, Ahmedabad, Gujarat	SCPC 512 Kbps	14
46.	Gujarat Vidyapith, Ahmedabad, Gujarat	LL-2 Mbps (1:1)	5
47.	Gulbarga University, Gulbarga, Karnataka	LL-2 Mbps (1:1)	17
48.	Guru Ghasidas University, Bilaspur, Chhatisgarh	LL-2 Mbps (1:1)	8
49.	Guru Gobind Singh Indraprastha University, Delhi	LL-2 Mbps (1:1)	16
50.	Guru Jambheshwar University, Hisar, Haryana	SCPC 256 Kbps	16



Sr. No.	Name of University	Current Bandwidth	No. of E-Resources
51.	Guru Nanak Dev University, Amritsar, Punjab	LL-2 Mbps (1:1)	25
52.	Gurukula Kangri Vishwavidyalaya, Haridwar, Uttarakhand	LL-2 Mbps (1:1)	15
53.	Hemchandraacharya North Gujarat University, Patan, Gujarat	LL-2 Mbps (1:1)	16
54.	Hemwati Nandan Bahuguna Garhwal University, Srinagar, Uttarakhand	LL-2 Mbps (1:1)	15
55.	Himachal Pradesh University, Shimla, Himachal Pradesh	LL-2 Mbps (1:1)	17
56.	Indira Kala Sangeet Vishwavidyalaya, Khairagarh, Chattisgarh	BB VSAT 256 Kbps	4
57.	Jadavpur University, Kolkata, West Bengal	LL-2 Mbps (1:1)	25
58.	Jai Narain Vyas University, Jodhpur, Rajasthan	LL-2 Mbps (1:1)	4
59.	Jain Vishwa Bharati Institute, Ladnun, Dist. Nagaur, Rajasthan	LL-2 Mbps (1:1)	5
60.	Jamia Hamdard University, New Delhi	LL-2 Mbps (1:1)	23
61.	Jamia Millia Islamia, New Delhi	LL-2 Mbps (1:1)	23
62.	Jammu University, Jammu Tawi, J & K	SCPC 1 Mbps	24
63.	Jawaharlal Nehru Technological University, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)	15
64.	Jawaharlal Nehru University, New Delhi	LL-2 Mbps (1:1)	23
65.	Jiwaji University, Gwalior, Madhya Pradesh	LL-2 Mbps (1:1)	23
66.	Kakatiya University, Warangal, Andhra Pradesh	BBVSAT 512 Kbps	14
67.	Kalyani University, Kalyani, West Bengal	LL-2 Mbps (1:1)	16
68.	Kameshwara Singh Darbhanga Sanskrit University, Darbhanga, Bihar	BB VSAT 256 Kbps	6
69.	Kannada University, Kamalpur, Karnataka	LL-2 Mbps (1:1)	5
70.	Kannur University, Kannur Dist., Kerala	LL-2 Mbps (1:1)	5
71.	Karnatak University, Dharwad, Karnataka	LL-2 Mbps (1:1)	24
72.	Kumaun University, Nainital, Uttarakhand	LL-2 Mbps (1:1)	15
73.	Kurukshetra University, Kurukshetra, Haryana	LL-2 Mbps (1:1)	24
74.	Kuvempu University, Shankaraghatta, Karnataka	LL-2 Mbps (1:1)	22
75.	Lalit Narayan Mithila University, Darbhanga, Bihar	BB VSAT 256 Kbps	5
76.	Madurai Kamaraj University, Madurai, Tamil Nadu	SCPC 512 Kbps	25
77.	Magadh University, Bodh Gaya, Bihar	BB VSAT 256 Kbps	5
78.	Maharaja Sayajirao University of Baroda, Vadodara, Gujarat	LL-2 Mbps (1:1)	25

<b>Sr. No.</b>	<b>Name of University</b>	<b>Current Bandwidth</b>	<b>No. of E-Resources</b>
79.	Maharshi Dayanand Saraswati University, Ajmer, Rajasthan	BB VSAT 256 Kbps	4
80.	Maharshi Dayanand University, Rohtak, Haryana	LL-2 Mbps (1:1)	16
81.	Mahatma Gandhi Antarrashtriya Hindi Vishwavidyala, Vardha, Maharashtra	LL-2 Mbps (1:1)	5
82.	Mahatma Gandhi Chitrakoot Gramoday Vishwavidyalaya, Chitrakoot, Madhya Pradesh	LL-2 Mbps (1:1)	6
83.	Mahatma Gandhi Kashi Vidyapeeth, Varanasi, UP	LL-2 Mbps (1:1)	4
84.	Mahatma Gandhi University, Kottayam, Kerala	LL-2 Mbps (1:1)	24
85.	Mangalore University, Mangalore, Karnataka	LL-2 Mbps (1:1)	24
86.	Manipur University, Imphal, Manipur	LL-2 Mbps (1:1)	23
87.	Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu	LL-2 Mbps (1:1)	16
88.	Maulana Azad National Urdu University, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)	4
89.	Mizoram University, Aizwal, Mizoram	LL-2 Mbps (1:1)	23
90.	MJP Rohilkhand University, Bareilly, UP	LL-2 Mbps (1:1)	4
91.	Mohanlal Sukhadia University, Udaipur, Rajasthan	LL-2 Mbps (1:1)	17
92.	Mother Teresa Women's University, Kodaikanal, Tamil Nadu	LL-2 Mbps (1:1)	5
93.	Nagaland University, Kohima, Nagaland	LL-2 Mbps (1:1)	23
94.	National Law School of India University, Bengaluru, Karnataka	LL-2 Mbps (1:1)	4
95.	North Eastern Hill University, Shillong, Meghalaya	LL-2 Mbps (1:1)	24
96.	North Maharashtra University, Jalgaon, Maharashtra	LL-2 Mbps (1:1)	16
97.	Osmania University, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)	25
98.	Panjab University, Chandigarh, Punjab	LL-2 Mbps (1:1)	25
99.	Patna University, Patna, Bihar	BBVSAT 256 Kbps	5
100.	Periyar University, Salem, Tamil Nadu	LL-2 Mbps (1:1)	5
101.	Pondichery University, Puducherry	LL-2 Mbps (1:1)	25
102.	Potti Sreeramulu Telugu University, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)	4
103.	Pt. Ravishankar Shukla University, Raipur, Chhattisgarh	LL-2 Mbps (1:1)	24
104.	Punjabi University, Patiala, Punjab	BB VSAT 256 Kbps	24
105.	Rabindra Bharati University, Kolkata, West Bengal	LL-2 Mbps (1:1)	4

Sr. No.	Name of University	Current Bandwidth	No. of E-Resources
106.	Rajasthan Vidyapith, Udaipur, Rajasthan	BBVSAT 256 Kbps	4
107.	Rajiv Gandhi University, Itanagar, Arunachal Pradesh	LL-2 Mbps (1:1)	22
108.	Ranchi University, Ranchi, Jharkhand	LL-2 Mbps (1:1)	8
109.	Rani Durgavati Vishwavidyalaya, Jabalpur, Madhya Pradesh	LL-2 Mbps (1:1)	14
110.	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, Maharashtra	SCPC 512 Kbps	24
111.	Rashtriya Sanskrit Vidyapeeth, Tirupati, Andhra Pradesh	LL-2 Mbps (1:1)	4
112.	Sambalpur University, Sambalpur, Orissa	BBVSAT 256 Kbps	17
113.	Sampurnanand Sanskrit University, Varanasi, UP	LL-2 Mbps (1:1)	4
114.	Sant Gadge Baba Amravati University, Amravati, Maharashtra	BBVSAT 256 Kbps	16
115.	Sardar Patel University, Vallabh Vidyanagar, Gujarat	LL-2 Mbps (1:1)	24
116.	Saurashtra University, Rajkot, Gujarat	LL-2 Mbps (1:1)	18
117.	Shivaji University, Kolhapur, Maharashtra	LL-2 Mbps (1:1)	25
118.	Shri Jaganath Sanskrit Visvavidyalaya, Puri, Orissa	BB VSAT 256 Kbps	Discontinued
119.	Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeeth, New Delhi	LL-2 Mbps (1:1)	4
120.	Shri Padmavati Mahila Vishvavidyalayam, Chittoor, Andhra Pradesh	LL-2 Mbps (1:1)	4
121.	SNDT Womens University, Mumbai, Maharashtra	LL-2 Mbps (1:1)	7
122.	Sree Sankaracharya Univ. of Sanskrit, Ernakulam, Kerala	LL-2 Mbps (1:1)	5
123.	Sri Chandrasekharendra Saraswati Viswa Mahavidyalaya, Kanchipuram, TN	LL-2 Mbps (1:1)	4
124.	Sri Krishnadevraya University, Anantapur, Andhra Pradesh	LL-2 Mbps (1:1)	7
125.	Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh	LL-2 Mbps (1:1)	15
126.	Sri Venkateswara University, Tirupati, Andhra Pradesh	SCPC 512 Kbps	17
127.	Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra	LL-2 Mbps (1:1)	6
128.	Tamil University, Thanjavur, Tamil Nadu	BB VSAT 256 Kbps	4

<b>Sr. No.</b>	<b>Name of University</b>	<b>Current Bandwidth</b>	<b>No. of E-Resources</b>
129.	Tata Institute of Social Sciences, Mumbai, Maharashtra	LL-2 Mbps (1:1)	10
130.	Tezpur University, Tezpur, Assam	LL-2 Mbps (1:1)	23
131.	Thapar University, Patiala, Punjab	LL-2 Mbps (1:1)	22
132.	Tilak Maharashtra Vidyapeeth, Pune, Maharashtra	LL-2 Mbps (1:1)	4
133.	Tilka Manjhi Bhagalpur University, Bhagalpur, Bihar	BBVSAT 256 Kbps	Discontinued
134.	Tripura University, Agartala, Tripura	LL-2 Mbps (1:1)	23
135.	University of Allahabad, Allahabad, UP	LL-2 Mbps (1:1)	24
136.	University of Burdwan, Burdwan, West Bengal	LL-2 Mbps (1:1)	18
137.	University of Calicut, Kozhikode, Kerala	LL-2 Mbps (1:1)	23
138.	University of Delhi, Delhi	LL-2 Mbps (1:1)	25
139.	University of Hyderabad, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)	24
140.	University of Kashmir, Srinagar, J&K	SCPC 1 Mbps	24
141.	University of Kerala, Thiruvananthapuram, Kerala	LL-2 Mbps (1:1)	24
142.	University of Lucknow, Lucknow, Uttar Pradesh	LL-2 Mbps (1:1)	17
143.	University of Madras, Chennai, Tamil Nadu	LL-2 Mbps (1:1)	25
144.	University of Mumbai, Mumbai, Maharashtra	LL-2 Mbps (1:1)	24
145.	University of Mysore, Mysore, Karnataka	LL-2 Mbps (1:1)	24
146.	University of North Bengal, Darjeeling, Uttranchal	LL-2 Mbps (1:1)	23
147.	University of Pune, Pune, Maharashtra	LL-2 Mbps (1:1)	25
148.	University of Rajasthan, Jaipur, Rajasthan	LL-2 Mbps (1:1)	25
149.	Utkal University, Bhubneshwar, Orissa	LL-2 Mbps (1:1)	17
150.	VBS Purvanchal University, Jaunpur, UP	BB VSAT 256 Kbps	4
151.	Veer Narmad South Gujarat University, Surat, Gujarat	LL-2 Mbps (1:1)	17
152.	Vidyasagar University, Midnapore, West Bengal	LL-2 Mbps (1:1)	17
153.	Vikram University, Ujjain, Madhya Pradesh	LL-2 Mbps (1:1)	6
154.	Vinoba Bhave University, Hazaribag, Jharkhand	LL-2 Mbps (1:1)	—
155.	Visva Bharati, Santiniketan, West Bengal	LL-2 Mbps (1:1)	17
156.	Yashwantrao Chavan Maharashtra Open Univ., Nashik, Maharashtra	LL-2 Mbps (1:1)	4
157.	Deendayal Upadhyaya Gorakhpur University, Gorakhpur, UP	LL-2 Mbps (1:1)	5

<b>Sr. No.</b>	<b>Name of University</b>	<b>Current Bandwidth</b>	<b>No. of E-Resources</b>
158.	Sikkim University, Gangtok, Sikkim		23
Inter	University Centres (IUCs) of UGC		
159.	Information and Library Network (INFLIBNET), Ahmedabad, Gujarat	LL-2 Mbps (1:1)	24
160.	Inter University Accelerator Centre (Formerly Nuclear Science Centre), New Delhi	RL-512 Kbps(1:3)	7
161.	Inter University Centre for Astronomy & Astrophysics, Pune, Maharashtra	LL-2 Mbps (1:1)	7
162.	Consortium for Educational Communication, New Delhi	LL-2 Mbps (1:1)	—
163.	UGC-DAE Consortium for Scientific Research, Indore, Madhya Pradesh	LL-512 Kbps(1:3)	8

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## Appendix IX

### Members of Central Connectivity Monitoring Committee (CCMC) (As on 31st March 2010)

**Prof. D G Kanhere (Chairman)**

Professor, Department of Physics  
University of Pune  
Ganeshkhind, Pune 411 007

**Prof. Ajit Kembhavi**

Director  
Inter University Centre for Astronomy &  
Astrophysics (IUCAA)  
Post Bag 4, Ganeshkhind  
Pune 411 007

**Dr. P. Prakash (Since January 2010)**

Jt. Secretary (IUC)  
University Grants Commission  
New Delhi 110 002

**Prof. G. Sivakumar**

Dept. of Computer Science and Engineering  
Indian Institute of Technology Bombay  
Powai, Mumbai - 400076

**Prof. Karmeshu**

Computer System Sciences  
Jawaharlal Nehru University  
New Mehrauli Road  
New Delhi 110 067

**Prof. Parimal Trivedi**

Vice Chancellor  
Gujarat University, Navragpura  
Gujarat-380009

**Prof. S K Pandey**

Vice-Chancellor  
Pt. Ravi Shanker Shukla University  
Amanaka, Raipur 492 010  
Chhattisgarh

**Mr. Manoj Kumar K**

Scientist-D (CS)  
INFLIBNET Centre  
Ahmedabad - 380009

**Prof. (Mrs.) Savita Gandhi**

Prof. & Head  
Rollwala Computer Centre  
Gujarat University, Ahmedabad

**Dr. Jagdish Arora (Convener) (Ex.officio)**

Director  
INFLIBNET Centre  
Ahmedabad – 380 009

**Prof. A N Rai**

Vice-Chancellor  
Mizoram University  
Aizwal 796 012, Mizoram



### Members of the Negotiation Committee of the CCMC (As on 31st March 2010)

**Dr. Jagdish Arora (Chairman)**

Director  
INFLIBNET Centre  
Ahmedabad

**Dr. Parimal Trivedi**

Vice Chancellor  
Gujarat University  
Ahmedabad.

**Prof. Karmeshu**

Computer System Sciences  
Jawaharlal Nehru University  
New Delhi

**Shri D P Negi**

Admn. Officer (Finance)  
INFLIBNET Centre  
Ahmedabad

**Prof. G. Sivakumar**

Department of Computer Science & Engineering  
Indian Institute of Technology  
Bombay, Mumbai

**Shri Ashok Achtani**

Incharge, Stores & Purchase  
INFLIBNET Centre  
Ahmedabad

**Dr.S Majumdar**

University Librarian  
Delhi University, Delhi

**Shri Manoj Kumar K (Convener)**

Scientist-D (CS)  
INFLIBNET Centre  
Ahmedabad

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## Appendix - XI

### Members of the National Steering Committee (NSC) (As on 31st March 2010)

**Prof. Ajit Kembhavi (Chairman)**

Director, IUCAA  
Post Bag 4, Ganeshkhind  
Pune - 411 007

**Prof. Rohini M Godbole**

Centre for High Energy Physics  
Indian Institute of Science  
Bangalore - 560012

**Dr. P Prakash**

Jt. Secretary (IUC)  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi - 110 002

**Prof. H A Ranganath**

Director  
National Assessment &  
Accreditation Council (NAAC)  
Bangalore -560072  
Karnataka

**Prof. A Balasubramanian**

Director of Culture & Cultural Relations  
Pondicherry University  
Puducherry - 605014

**Mrs. P Nishy**

Coordinator, CSIR Consortium  
NISCAIR  
14-Satsang Vihar Marg  
New Delhi – 110 067

**Prof. V G Talawar**

Vice Chancellor  
University of Mysore  
Crawford Hall Mysore  
Karnataka - 570005

**Prof. G P Agarwal**

Chairman  
Advisory Committee for the Library  
Indian Institute of Technology Delhi  
Hauz Khas  
New Delhi - 110 016

**Prof. Anwar Jahan Zuberi**

Vice-Chancellor  
University of Calicut  
Calicut - 673 635  
Kerala

**Dr. D P Kothari**

Vice-Chancellor  
VIT University  
Vellore - 632 014  
Tamil Nadu

**Prof. Asoke Kumar Sen**

Dean  
Dept. of Physics  
Assam University  
Silchar -788 011, Assam

**Dr. Jagdish Arora (Convenor)**

Director  
INFLIBNET Centre  
Ahmedabad - 380 009

## Appendix - XII

### Members of the Negotiation Committee of the NSC (As on 31st March 2010)

**Dr. Jagdish Arora (Chairman)**

Director  
INFLIBNET Centre  
Ahmedabad - 380 009

**Mrs. P Nishy**

Coordinator CSIR Consortium  
NISCAIR  
14-Satsang Vihar Marg  
New Delhi – 110 067

**Prof. D P Kothari**

Vice-Chancellor, VIT University  
Vellore - 632 014  
Tamil Nadu

**Prof. G P Agarwal**

Chairman  
Advisory Committee for the Library  
Indian Institute of Technology Delhi  
Hauz Khas  
New Delhi - 110 016

**Prof. A Balasubramanian**

Director of Culture & Cultural Relations  
Pondicherry University  
Puducherry - 605014

**Shri Ashok Kumar Rai**

Scientist D (CS)  
INFLIBNET Centre  
Ahmedabad-380009

**Prof. Ashoke Kumar Sen**

Dean, Department of Physics  
Assam University  
Silchar - 788 011  
Assam

**Shri D P Negi**

Admin Officer (Finance)  
INFLIBNET Centre  
Ahmedabad-380009

**Prof. Parimal Trivedi**

Vice-Chancellor  
Gujarat University  
Ahmedabad – 380009  
Gujarat

**Shri Ashok Achtani**

Section Officer (P & S)  
INFLIBNET Centre  
Ahmedabad-380009

## Appendix - XIII

### E-Resources Subscribed Under UGC-Infonet Digital Library Consortium

Sl. No.	Electronic Resources	URL	No. of Jrnls.	No. of Univ.
<b>Full-text Resources</b>				
1	American Chemical Society	<a href="http://www.pubs.acs.org/">http://www.pubs.acs.org/</a>	37	101
2	American Institute of Physics	<a href="http://www.scitation.org/">http:// www.scitation.org/</a>	18	104
3	American Physical Society	<a href="http:// www.scitation.org/">http:// www.scitation.org/</a>	10	104
4	Annual Reviews	<a href="http://arjournals.annualreviews.org/">http://arjournals.annualreviews.org/</a>	33	101
5	Blackwell-Wiley	<a href="http://www3.interscience.wiley.com/">http://www3.interscience.wiley.com/</a>	489	75
6	Cambridge University Press	<a href="http://journals.cambridge.org/">http://journals.cambridge.org/</a>	224	110
7	Cell Press (Elsevier)	<a href="http://www.sciencedirect.com/">http://www.sciencedirect.com/</a>	34	57
8	Economic & Political Weekly	<a href="http://epw.in/">http://epw.in/</a>	1	All
9	Emerald – Lib. Sci.	<a href="http://www.emeraldinsight.com/">http://www.emeraldinsight.com/</a>	29	67
10	Institute of Physics	<a href="http://www.iop.org/EJ/">http://www.iop.org/EJ/</a>	46	114
11	JSTOR	<a href="http://www.jstor.org/">http://www.jstor.org/</a>	1401	101
12	Nature	<a href="http://www.nature.com/">http://www.nature.com/</a>	1	56
13	Oxford University Press	<a href="http://www.oxfordjournals.org">http://www.oxfordjournals.org</a>	206	85
14	Portland Press	<a href="http://www.portlandpress.com/pp/default.htm">http://www.portlandpress.com/pp/default.htm</a>	8	57
15	Project Euclid	<a href="http://projecteuclid.org/">http://projecteuclid.org/</a>	22	57
16	Project Muse	<a href="http://muse.jhu.edu/journals">http://muse.jhu.edu/journals</a>	411	101
17	Royal Society of Chemistry (RSC)	<a href="http://www.rsc.org/Publishing/Journals/">http://www.rsc.org/Publishing/Journals/</a>	29	104
18	SIAM Journals	<a href="http://epubs.siam.org/">http://epubs.siam.org/</a>	14	57
19	Springer Link	<a href="http://www.springerlink.com/">http://www.springerlink.com/</a>	1389	125
20	Taylor & Francis	<a href="http://www.informaworld.com/">http://www.informaworld.com/</a>	1365	94
<b>Bibliographic Databases</b>				
21	JCCC	<a href="http://jccc-infonet.informindia.co.in/">http://jccc-infonet.informindia.co.in/</a>		All
22	MathSciNet	<a href="http://www.ams.org/mathscinet">http://www.ams.org/mathscinet</a>		50
23	ISID	<a href="http://isid.org.in/">http://isid.org.in/</a>		All
24	SciFinderScholar	<a href="http://www.cas.org/SCIFINDER/SCHOLAR/index.html">http://www.cas.org/SCIFINDER/SCHOLAR/index.html</a>		21
25	Web of Science (through NLIST Programme)	<a href="http://www.isiknowledge.com/">http://www.isiknowledge.com/</a>		50
26	RSC Databases (6 Databases)	<a href="http://www.rsc.org/">http://www.rsc.org/</a>		104

## (An Autonomous Inter-University Centre of UGC)

Ahmedabad - 380 009

## BALANCE SHEET AS AT 31st MARCH 2010

(Amount - Rs.)

CORPUS/CAPITAL FUND AND LIABILITIES	Schedule No.	F.Y. 2009-2010 (Current Year)	F.Y. 2008-2009 (Previous Year)
TRUST'S FUNDS OR CORPUS INCOME & EXPENDITURE A/C.	01	22,02,24,083.39	18,88,03,944.39
OTHER EARMARKED FUNDS	02	3,31,19,244.00	5,76,41,164.00
U.G.C. GRANTS FOR CONSTRUCTION OF INSTITUTIONAL BUILDING		3,17,50,000.00	0.00
CURRENT LIABILITIES		1,07,31,711.50	22,27,301.00
<b>TOTAL :</b>	<b>03</b>	<b>29,58,25,038.89</b>	<b>24,86,72,409.39</b>
<b>ASSETS</b>			
<b>FIXED ASSETS</b>	04 - A	<b>5,59,68,641.00</b>	<b>5,39,30,972.00</b>
PERMANENT INSTITUTIONAL BUILDING CONSTRUCTION A/C	04 - B	1,57,27,700.00	0.00
INVESTMENT - FROM EARMARKED/ENDOWMENT FUNDS	05	20,77,90,369.70	17,74,37,863.70
CURRENT ASSETS	06	1,58,64,250.19	1,68,29,495.69
SUNDRY DEPOSITS	07	4,74,078.00	4,74,078.00
<b>TOTAL :</b>		<b>29,58,25,038.89</b>	<b>24,86,72,409.39</b>

As per our report of even date attached.  
For Deepak Jayantilal Shah & Co.  
Chartered Accountants

Sd/-  
[ Deepak J. Shah ]  
Proprietor

FRN : 113625W  
MEM. NO. : 14364

Place : Ahmedabad  
Date : 14.07.2010

The above Balance Sheet to the best of our belief  
contains a true account of the Funds and  
Liabilities and Properties & Assets of the Institution.

Sd/-  
[ D. P. Negi ]  
Admn. Officer-F

Sd/-  
[Dr. Jagdish Arora ]  
Director

Place : Ahmedabad  
Date : 14.07.2010

## INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31st MARCH 2010

		(Amount - Rs.)	
INCOME	Schedule No.	F.Y. 2009-2010 (Current Year)	F.Y. 2008-2009 (Previous Year)
GRANTS-IN-AIDS RECEIVED FROM U.G.C., NEW DELHI	08	2,90,25,000.00	5,30,00,000.00
ADDITIONAL GRANTS EARNED AS INTEREST ON INVESTMENTS		2,05,89,301.00	1,08,28,606.00
MISCELLANEOUS INCOME	09	99,62,623.00	21,43,581.00
<b>TOTAL (A) :</b>		<b>5,95,76,924.00</b>	<b>6,59,72,187.00</b>
<b>EXPENDITURE</b>			
EXPENDITURE IN RESPECT OF PROPERTIES		1,88,143.00	50,597.00
EXPENDITURE ON THE OBJECT OF THE TRUST	10	2,79,48,642.00	2,19,40,816.00
AUDIT FEES	11	20,000.00	20,000.00
<b>TOTAL (B) :</b>		<b>2,81,56,785.00</b>	<b>2,20,11,413.00</b>
<b>BALANCE BEING EXCESS OF INCOME OVER EXPENDITURE (A-B)</b>		<b>3,14,20,139.00</b>	<b>4,39,60,774.00</b>
<b>TOTAL :</b>		<b>5,95,76,924.00</b>	<b>6,59,72,187.00</b>

As per our report of even date attached.  
For Deepak Jayantilal Shah & Co.  
Chartered Accountants

Sd/-  
[ Deepak J. Shah ]  
Proprietor

Sd/-  
[ D. P. Negi ]  
Admn. Officer-F

Sd/-  
[Dr. Jagdish Arora ]  
Director

FRN : 113625W  
MEM. NO. : 14364

Place : Ahmedabad  
Date : 14.07.2010

Place : Ahmedabad  
Date : 14.07.2010



## SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2010

		(Amount - Rs.)	
		F.Y. 2009-2010 (Current Year)	F.Y. 2008-2009 (Previous Year)
<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>			
<b>SCHEDULE - 1 CORPUS/CAPITAL FUND :</b>			
Balance as at beginning of the year		3,14,20,139.00	14,48,43,170.39
Add : Balance of net income transferred from the Income & Expenditure Account.		18,88,03,944.39	4,39,60,774.00
<b>BALANCE AS AT YEAR - END</b>		<b>22,02,24,083.39</b>	<b>18,88,03,944.39</b>

FUNDS-WISE BREAK UP	TOTALS	UGC-INFONET Grants-in-Aids	E-Subscription Grants-in-Aids	North Eastern Region	F.Y.2009-2010 (Current Year)	F.Y.2008-2009 (Previous Year)
<b>SCHEDULE - 2 EARMARKED FUNDS :</b>						
Opening balance of the funds	50,00,000.00	2,51,07,713.00	10,23,965.00	2,65,09,486.00	<b>5,76,41,164.00</b>	34,75,27,456.00
Add : Grant received during the year	Nil	10,00,00,000.00	22,10,50,000.00	Nil	<b>32,10,50,000.00</b>	57,00,00,000.00
Less : Grant Utilized during the year	Nil	12,44,75,359.00	21,66,77,964.00	44,18,597.00	<b>34,55,71,920.00</b>	85,98,86,292.00
<b>BALANCE AS AT YEAR - END</b>	<b>50,00,000.00</b>	<b>6,32,354.00</b>	<b>53,96,001.00</b>	<b>2,20,90,889.00</b>	<b>3,31,19,244.00</b>	<b>5,76,41,164.00</b>

# RECEIPT & PAYMENT

Account Head	F.Y. 2009-2010 (Current Year)		F.Y. 2008-2009 (Previous Year)	
	Receipt	Payment	Receipt	Payment
Cash on Hand (Op. Balance)	32000.00	0.00	15000.00	0.00
Bank Balance (Op. Balance) SBI, Guj. Uni. Br.-SB A/c.-10298781250	2693417.77	0.00	2358558.77	0.00
Bank Balance (Op. Balance) SBI, Guj. Uni. Br.-SB A/c.- 10298782049	2717805.92	0.00	1382818.92	0.00
Cash on Hand (Cl. Balance)	0.00	32000.00	0.00	32000.00
Bank Balance (Cl. Balance) SBI, Guj. Uni. Br.-SB A/c.- 10298781250	0.00	1906847.77	0.00	2693417.77
Bank Balance (Cl. Balance) SBI, Guj. Uni. Br.-SB A/c.- 10298782049	0.00	2074758.42	0.00	2717805.92
10 <sup>th</sup> - 11 <sup>th</sup> Plan Expert Committee Meeting Exps.	310944.00	0.00	0.00	310944.00
Advertisement Exps.	0.00	126776.00	0.00	85718.00
Associate Members A/c.	22021827.50	14827694.00	3433975.00	1789526.00
Associate Membership Fee	440000.00	0.00	60000.00	0.00
Audit Fee	0.00	20000.00	0.00	20000.00
Automation of Gujarat University Library	799.00	58556.00	400000.00	345031.00
Bank Charges	0.00	20184.00	0.00	16422.00
Bonus	0.00	31086.00	0.00	41943.00
Books & Journals	0.00	165784.00	0.00	160744.00
Building Committee Meeting Exps.	5901.00	301135.00	0.00	133807.00
Building Maintenance	0.00	74643.00	0.00	50597.00
C.C.A. (Admn. Staff)	0.00	0.00	0.00	21330.00
C.C.A. (Technical Staff)	0.00	240.00	0.00	22872.00
C.P.W.D. A/c.	0.00	0.00	367382.00	0.00
CALIBER-2008	0.00	7825.00	0.00	424.00
CALIBER-2009	0.00	29634.00	0.00	426733.00
Canteen Account	54355.00	57699.00	74757.00	67681.00
Canteen Subsidy	0.00	23992.00	0.00	38397.00
Car Loan Advance	63000.00	0.00	24000.00	0.00
Cash Contra	22435857.00	22435857.00	6865253.00	6865253.00
Computer Software	0.00	278950.00	0.00	210929.00
Computers	0.00	1356450.00	50000.00	3207403.00
Conference & Symposium	0.00	319285.00	0.00	138573.00
Consumable, Stores & Spares	0.00	231974.00	31280.00	198126.00
Conveyance Charges	0.00	2756.00	0.00	846.00
Dearness Allowance (Admn. Staff)	0.00	596232.00	0.00	537133.00
Dearness Allowance (Technical Staff)	0.00	965719.00	0.00	930056.00
Dearness Pay (Admn. Staff)	0.00	0.00	0.00	312963.00
<b>CARRIED FORWARD</b>	<b>50775907.19</b>	<b>45946077.19</b>	<b>15063024.69</b>	<b>21376674.69</b>





# RECEIPT & PAYMENT

Account Head	F.Y. 2009-2010 (Current Year)		F.Y. 2008-2009 (Previous Year)	
	Receipt	Payment	Receipt	Payment
<b>BROUGHT FORWARD</b>	<b>50775907.19</b>	<b>45946077.19</b>	<b>15063024.69</b>	<b>21376674.69</b>
Dearness Pay (Technical Staff)	0.00	12500.00	0.00	563677.00
Earnest Money Deposit	13680942.00	13687092.00	36925.00	36925.00
Electrical Maintenance	196.00	20530.00	822.00	29073.00
Electricity Charges	0.00	841896.00	0.00	754759.00
Entertainment Exps.	0.00	111844.00	0.00	87077.00
Equipment Maintenance	0.00	219832.00	0.00	314122.00
E-Subscription	3570382.00	2847582.00	0.00	349942.00
ETD A/c.	0.00	174207.00	0.00	0.00
Festival Advance	27600.00	27600.00	15000.00	15000.00
Franking Machine Advance	164011.00	148236.00	209235.00	200000.00
Furniture & Fixtures	0.00	74805.00	0.00	193230.00
G.B. Meeting Expenses	21561.00	390224.00	0.00	254922.00
Garden Expenses	0.00	9250.00	0.00	12497.00
General Advance	13340158.00	13889872.00	8664354.00	8938860.00
General repairs & maintenance	9998.00	36336.00	7681.00	61486.00
Grade Pay (Admn. Staff)	0.00	472800.00	0.00	110900.00
Grade Pay / Spl. All. (Tech. Staff)	0.00	718600.00	0.00	177000.00
Group Insurance Saving	46556.00	32920.00	29170.00	31588.00
GRUH Finance Ltd.	36666.00	36666.00	39826.00	39826.00
Guest House Caretaking Charges	0.00	58500.00	0.00	43500.00
H.D.F.C. A/c.	0.00	0.00	25881.00	25881.00
Honorarium Exps.	0.00	32000.00	0.00	31760.00
Hostel Charges	7390.00	0.00	18150.00	0.00
Hostel Maintenance	0.00	2812.00	0.00	4329.00
House Building Advance	35400.00	0.00	50400.00	15000.00
House Rent Allowance (Admn. Staff)	0.00	448918.00	0.00	245203.00
House Rent Allowance (Technical Staff)	0.00	540612.00	0.00	333811.00
Income Tax	2537314.00	2537314.00	1088352.00	1099707.00
Excess amount of Associate Members Subscription A/c.	638144.00	0.00	0.00	0.00
INFLIBNET Centre Employees P.F. Account	1377350.00	1371564.00	1162519.00	1160752.00
INFLIBNET Employees Co. Op. Credit Society Ltd.	261135.00	261135.00	216769.00	216769.00
INFLIBNET Sports & Recreation Club	1440.00	1440.00	1390.00	1390.00
Institutional Membership Fee	0.00	120548.00	0.00	158551.00
Interest A/c.	22727235.00	2137934.00	10828606.00	0.00
<b>CARRIED FORWARD</b>	<b>109259385.19</b>	<b>87211646.19</b>	<b>37458104.69</b>	<b>36884211.69</b>





# RECEIPT & PAYMENT

Account Head	F.Y. 2009-2010 (Current Year)		F.Y. 2008-2009 (Previous Year)	
	Receipt	Payment	Receipt	Payment
<b>BROUGHT FORWARD</b>	<b>109259385.19</b>	<b>87211646.19</b>	<b>37458104.69</b>	<b>36884211.69</b>
Interest on Retirement Benefit	0.00	340618.00	0.00	104225.00
Interest on Car Loan	69144.00	0.00	0.00	0.00
Interest on Scooter Loan	0.00	0.00	17402.00	0.00
Investment in Fix Deposits	473513090.00	503865596.00	735816167.00	476969901.00
Land Revenue Exps.	0.00	13500.00	0.00	0.00
Leave Encashment	0.00	167543.00	0.00	24753.00
Leave Salary Contribution	6600.00	6240.00	47160.00	0.00
Legal & Professional Exps.	0.00	0.00	11000.00	29500.00
LTC Advance	232314.00	233314.00	9128.00	9128.00
LTC Expenses	0.00	249722.00	0.00	283737.00
L.I.C. of India	119349.00	120413.00	118929.00	117865.00
Manpower Hiring Charges	0.00	1425980.00	0.00	906961.00
Medical Facility Contribution	900.00	900.00	1800.00	1800.00
Miscellaneous Income	26035.00	0.00	69750.00	0.00
Miscellaneous Expenses	0.00	6254.00	0.00	93321.00
Mobilization Advance	0.00	924000.00	0.00	0.00
Networking Expenses	0.00	0.00	0.00	5800.00
Newsletter Publication Expenses	0.00	177819.00	0.00	172280.00
Newspaper & Periodicals Expenses	0.00	185328.00	0.00	29398.00
NIAS Project	30000.00	50700.00	50000.00	21000.00
N-LIST	75051934.00	74250837.00	0.00	0.00
Office Equipments	0.00	161680.00	0.00	345711.00
Office Expenses	0.00	123650.00	0.00	101610.00
Office Rent	0.00	772500.00	0.00	1030000.00
Overtime Allowance (Admn. Staff)	0.00	324.00	0.00	2234.00
P.F. Contribution	1246826.00	180106.00	0.00	313717.00
Pay Commission Arrears	0.00	1559404.00	0.00	1429938.00
Penal Charges paid to Govt. of Gujarat	0.00	100000.00	0.00	0.00
Pension & Gratuity	6000.00	1922507.00	15600.00	250376.00
Permanent Institutional Building Construction	0.00	8012848.00	0.00	7349189.00
Petrol Exps.	0.00	45520.00	0.00	25523.00
Planner-2007	0.00	0.00	0.00	1600.00
Planner-2010	0.00	432747.00	0.00	0.00
Postage & Telegram Expenses	0.00	218419.00	0.00	234122.00
Professional Fees	0.00	81730.00	0.00	36250.00
<b>CARRIED FORWARD</b>	<b>659561577.19</b>	<b>691157845.19</b>	<b>773615040.69</b>	<b>526774150.69</b>





# RECEIPT & PAYMENT

Account Head	F.Y. 2009-2010 (Current Year)		F.Y. 2008-2009 (Previous Year)	
	Receipt	Payment	Receipt	Payment
<b>BROUGHT FORWARD</b>	<b>659561577.19</b>	<b>691157845.19</b>	<b>773615040.69</b>	<b>526774150.69</b>
Professional Tax	82970.00	83090.00	66870.00	66750.00
Recruitment Exps.	0.00	180766.00	0.00	516253.00
Regional Training	854.00	248857.00	0.00	0.00
Reimbursement of Medicines	2200.00	1316073.00	0.00	312952.00
Rent for Director Residence	0.00	376355.00	0.00	312000.00
Revenue Stamps A/c.	504.00	504.00	389.00	389.00
Sir Ratan Tata Trust (SRTT)	471050.00	194719.00	0.00	276331.00
Salaries (Admn. Staff)	24858.00	1900318.00	41770.00	1355232.00
Salaries (Technical Staff)	31767.00	5437235.00	221333.00	3557909.00
Salary Payable	9426690.00	9426690.00	6545640.00	6545640.00
Scientific Equipment	0.00	0.00	0.00	166007.00
Scooter Loan	52481.00	24860.00	13683.00	83200.00
Security Deposit	14000.00	6000.00	28750.00	30000.00
Security Expenses	0.00	703512.00	0.00	495466.00
Service Charges to AES Hostel for Trainees	0.00	356250.00	0.00	475000.00
Service Charges to Director's Residence	0.00	3706.00	0.00	0.00
SOL Expenses	10829928.00	2501254.00	34,47,986.00	15,69,466.00
Staff Welfare	0.00	3200.00	0.00	0.00
Stationary & Printing Expenses	47420.00	429335.00	49808.00	584200.00
Stipend to Trainees (for Database Development Activities)	0.00	141000.00	0.00	709057.00
Stock	111577.00	71614.00	242674.00	111577.00
Sundry Deposit	0.00	0.00	0.00	400.00
TDS Receivable	0.00	11773.00	0.00	0.00
Telephone & Trunk Call Expenses	0.00	283643.00	2297.00	230956.00
Tender Fee	16000.00	0.00	0.00	0.00
Transport Allowance (Admn. Staff)	0.00	292068.00	100.00	89632.00
Transport Allowance (Technical Staff)	0.00	402464.00	0.00	153108.00
Traveling Advance	296549.00	240201.00	182681.00	230917.00
Traveling Expenses	36747.00	936491.00	139117.00	1867272.00
University of Hyderabad	1810500.00	1668285.00	3154782.00	1757216.00
U.G.C. Grants	29025000.00	0.00	53000000.00	0.00
U.G.C. Grants for E-Subscription	221050000.00	216677964.00	470000000.00	686576458.00
UGC Grants for North East Region	0.00	4418597.00	0.00	609010.00
UGC Grants for Building	31750000.00	0.00	0.00	0.00
<b>CARRIED FORWARD</b>	<b>964642672.19</b>	<b>939484800.19</b>	<b>1310752920.69</b>	<b>1235456548.69</b>





Account Head	RECEIPT & PAYMENT			
	F.Y. 2009-2010 (Current Year)		F.Y. 2008-2009 (Previous Year)	
	Receipt	Payment	Receipt	Payment
BROUGHT FORWARD	964642672.19	939484800.19	1310752920.69	1235456548.69
UGC INFONET	100000000.00	124475359.00	100000000.00	172700824.00
UGC INFONET (Training)	0.00	200000.00	0.00	0.00
University of Delhi	1264695.00	1200649.00	0.00	1264695.00
Vehicle - Car	0.00	0.00	0.00	744220.00
Vehicle Insurance Exps.	0.00	16972.00	0.00	26340.00
Vehicle Hire Charges	2304.00	531891.00	0.00	612892.00
Workshop on Linux	0.00	0.00	73700.00	21101.00
<b>BALANCE</b>	<b>1065909671.19</b>	<b>1065909671.19</b>	<b>1,41,08,26,620.69</b>	<b>1,41,08,26,620.69</b>







## Information and Library Network Centre

(An IUC of University Grants Commission)

Near Gujarat University Guest House, P. B. No. 4116, Navrangpura,  
Ahmedabad - 380 009.

Tel. : 079-26304695, 26305971, 26300002, 26303498, 26301972

Fax : 079 - 26300990, 26307816

E-mail : [root@inflibnet.ac.in](mailto:root@inflibnet.ac.in)

Web Site : [www.inflibnet.ac.in](http://www.inflibnet.ac.in)