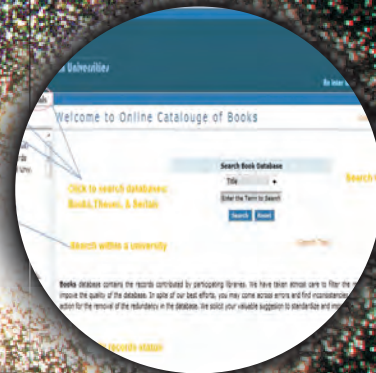


# Annual Report

April 1, 2008 to March 31, 2009



Information and Library Network Centre  
An IUC of University Grants Commission

**INFLIBNET Centre**

**Annual Report**  
**(April 1, 2008 – March 31, 2009)**



Information and Library Network Centre

Ahmedabad  
2009

## Contents

<b>From the Director's Desk</b>	<b>i</b>
1. Introduction	1
2. Mission and Vision	1
3. Aims and Objectives	2
4. Physical Infrastructure	4
5. Governance	5
6. Human Resources	6
7. Scientific & Technical Activities	6
8. Conventions	63
9. Central Facilities	79
10. Awards, Honours and Distinctions	87
11. Publications	87
12. Training Programmes / Workshops Organized by the Centre	91
13. Distinguished Visitors	100
14. Academic Interaction with Universities and Other Research Institutions	101
15. Project @ INFLIBNET Centre	101
16. Other Notable Activities	104
17. Right to Information Act	104
18. Financial Status	105
<b>Appendices</b>	
Appendix I : Building Committee	106
Appendix II : Governing Council	107
Appendix III : Governing Board	108
Appendix IV : Finance Committee	109
Appendix V : Technical, Administrative and Supporting Staff	110
Appendix VI : No. of Records Contributed by the Participating Universities to the Books Database	112
Appendix VII : No. of Records Contributed by the Participating Universities to the Serial Database	117
Appendix VIII : No. of Records Contributed by the Participating Universities to the Theses Database	120
Appendix IX : State-wise Distribution of SOUL Software	128
Appendix X : Universities having Internet Connectivity under the UGC-Infonet Programme	129
Appendix XI : Publishers, Aggregators and their E-Resources with URL	134
Appendix XII : Audited Annual Report (Summary)	135

## From the Director's Desk



The launch of National Mission on Education through Information and Communication Technology (ICT) indicates the seriousness with which the Government has taken-up the task of promoting higher education in the country. The dream of the INFLIBNET Centre to extend access to e-resources to colleges will soon be realized under the project entitled "Indian National Library and Information Services infrastructure for Scholarly Content (N-LIST)" funded by MHRD under its National Mission on Education through ICT. Under the project, individuals (including students, researchers and faculty) from colleges would be able to access e-resources and download articles required by them directly from the publisher's website once they are duly authenticated as authorized users. Providing access to more than 6,000 Govt. / Govt.-aided colleges under this project is a challenging task that has given several new opportunities to the Centre in terms of i) identification of information requirement of beneficiary colleges; ii) assessing availability of computer and network infrastructure in these institutions; iii) evolving authentication mechanism for users in colleges since, unlike universities, colleges may not have static IPs addresses; iv) strategic and logistics for imparting awareness training programmes for users in colleges, etc. The Centre is experimenting with Shibboleth, an open source authentication mechanism, to evolve a robust and trustworthy authentication mechanism for all colleges. The Centre is currently surveying the colleges to assess the extent of challenges mentioned above through online and offline questionnaires. Publishers have been asked to submit their proposals for providing access to their e-resources to colleges in the most cost-effective manner. The Centre, as a nodal agency for the project, will be responsible for developing and deploying appropriate software tools for authenticating authorized users through server(s) proposed to be installed at the INFLIBNET Centre.

Substantial progress was made under the two flagship schemes of the Centre namely, UGC-Infonet Connectivity Programme and UGC-Infonet Digital Library Consortium. The Internet bandwidth for 130 universities was increases to 2 Mbps and seven more universities were included under the UGC INFONET programme during the year. These seven universities were also given access to e-resources under the UGC-Infonet Digital Library Consortium. Substantial increase in usage was registered during the year in terms of number of articles downloaded by the participating universities. With increase in number of articles, the average cost per article under the Consortium came down to Rs.75.00. The trend of increase in research output in terms of increase in number of articles produced by beneficiary universities is evident this year also. Revised guidelines for both the schemes were approved by the UGC during the year. The new guidelines provides for greater representation of beneficiary universities in the committees of both the schemes. The National Mission on Education through ICT and National Knowledge

Network may also be instrumental in providing enhanced connectivity to the universities as well as to colleges. The INFLIBNET Centre is keeping a tab on all such opportunities that can benefit the university system in India.

Compilation of union catalogue of documents available in university libraries is one of the core activities of the Centre since its inception. The number of records in Union Catalogue of Books grew to more than one crore with active participation of university libraries. Several universities contributed their bibliographic records for the union database for the first time while quite a few universities provided bibliographic records of books that have been added to their collection in recent years. The web-based interface for INFLIBNET's union catalogue was completely revamped and re-launched as IndCat. The interface facilitates users not only to search the entire union catalogue but also to catalogues of their own respective universities. Moreover, users can also search selected universities in a given state. The interface also facilitates copy cataloguing of records from IndCat to their own LMS system.

The new version of SOUL, named SOUL 2.0 was launched during the inaugural session of the "National Seminar on Open Access to Textual and Multimedia Content: Bridging the Digital Divide" by Prof. S K Thorat, Chairman, UGC on 29th January, 2009 in New Delhi. Some of the important features and functionalities incorporated in SOUL 2.0 are: compliance to international standards like MARC 21 to facilitate data transfer and exchange, UNICODE to facilitate handling of multilingual content, SIP and NCIP for RFID compliance, FRBR to support functional requirement for bibliographic records, etc. The new version has been received very well. As a gesture of goodwill, the Centre has offered free copy of the software to all its existing users. 321 copies of the software were given to the existing users and 170 copies were sold to the new libraries during the year.

The Centre extends most of its resources and services through its websites. As such, all the websites of the Centre including its main website, websites for UGC-Infonet Connectivity programme, UGC-Infonet Digital Library Consortium and SOUL Software were re-designed, revamped and re-launched with enhanced functionalities. Considering the problem of accessibility at INFLIBNET Centre, a mirror site was created on the ERNET's hosting facility so as to ensure accessibility of INFLIBNET's services and resources 365 x 24 x 7 to the users. The RSS feed services launched by the Centre last year was well received and widely appreciated. The Centre's RSS feeds are now accessible through mobile devices.

The Centre was one of the first institutions to implement institutional repository. However, due to shortage of manpower, we have not been able to update our IR with the recent content. During the year under review, articles published in CALIBER, PLANNER and other national conferences were uploaded in the IR. Moreover, all the papers written by our scientist are now available through the repository.

During the period under report, the Expert Committee for XI Plan Period visited the INFLIBNET Centre on 27<sup>th</sup> and 28<sup>th</sup> November 2008 under the Chairmanship of Prof. S.S. Kadam, Vice Chancellor, Bharati Vidhyapeeth, Pune to evaluate the progress made by the Centre during X Plan Period and assess its financial requirement for the XI Plan Period. Based on the recommendations made by the Committee, UGC has approved and sanctioned most of the new and ongoing projects proposed by the Centre, besides, based on the recommendations of the Committee, the UGC has also allowed the Centre to fill-in all its vacant positions and has sanctioned additional four positions in regular scale and four positions on project basis.

Human resource development in the field of library and information science is one of the core activities of the Centre since its inception. The Centre imparts short-term and long-term training programmes in library automation as well as in applications of new information and communication technologies in libraries. During the year under review, six training programmes were organized on SOUL and two specialized training programmes were organized on open source software. Four training programmes were also organized in collaboration with other organizations like ADINET and Gujarat University. Besides, the 17 user's awareness programmes were organized in different beneficiary universities. The 7th International CALIBER was organized in collaboration with Pondicherry University from 25th to 27th February 2009 in Puducherry, Tamil Nadu and 6th PLANNER was organized in collaboration with Nagaland University, Kohima from 6th to 7th November 2008 in Dimapur, Nagaland. The Centre, in collaboration with the Consortium for Educational Communication (CEC), New Delhi organized a "National Seminar on Open Access to Textual and Multimedia Content: Bridging the Digital Divide" at the India Habitat Centre, New Delhi from 29th to 30th January 2009. All three events were highly successful and attracted a large number of participants from India and abroad.

The architectural design of the Institute building was finalized during the year under review. Quotations were invited from reputed construction companies. The Centre is in the process of awarding contract for construction of building. The work of construction would soon start after getting due clearances from local authorities.

With substantial inputs in terms of manpower, financial and physical resources, enhanced computer and network infrastructure and collaborative participation from our member universities, the INFLIBNET Centre looks forward to brighter tomorrow for entire academic community in India.



(Jagdish Arora)

**INFLIBNET Centre, Ahmedabad**  
**1st October 2009**

## 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 UGC had taken-up two major initiatives for academic community in universities under its purview. The first initiative, namely “UGC-Infonet Connectivity Programme” provides ICT infrastructure for networking of university campuses with state-of-the-art campus-wide network and Internet bandwidth, the second initiative called the “UGC-Infonet Digital Library Consortium” provides access to selected scholarly electronic journals and databases in different disciplines. The INFLIBNET is responsible for execution and monitoring of both the initiatives.

## 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 institutions 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 a uniform standard;
- 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;

- 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.

**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 Centre is presently located in the Gujarat University Campus since 1992. Three residential blocks of Gujarat University were hired on lease for accommodating the INFLIBNET's staff and laboratories. In the year 2007, the Government of Gujarat allocated 2.5 acres of land (10,000 Sq.Mtrs.) in the INFOCITY, Gandhinagar situated amidst reputed educational institutions like DAIICT, NIFT, NID etc. The Centre hired the services of M/s Vastu Shilpa Consultants, Ahmedabad, as Architect for designing and executing the work of construction of Institute building. After detailed discussions and deliberations with the staff, scientists and members of the Building Committee, the architectural designs of the Centre was finalised and were submitted to the Gandhinagar Urban Development Authority (GUDA) for their formal approval. Prior to submission of the architectural design to GUDA, presentations on architectural design of the building were made to the members of Building Committee, Governing Board and Governing Council of the Centre.

The pre-qualification bids were invited from construction companies through newspaper advertisements and 7 construction companies were selected based on pre-qualification bids. The commercial bids will be invited from these seven construction companies. It is expected that the construction of building would begin within the financial year 2009-2010. The list of members of Building Committee is enclosed as Annexure-I



**Fig.1: Conceptual Model of the INFLIBNET's Institutional Building**

## **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 the 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 GB 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. Scientific and Technical 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

#### Team Members

##### Library Science

Mr. Prem Chand  
Mr. Rajesh Chandrakar  
Mrs. Vaishali Shah  
Ms. Nilam Chavda  
Mrs Reshma Panchal

##### Computer Science

Mr. Abhishek Kumar  
Mr. Dharmesh Shah  
Mr. Yogesh Kumar

The Centre, since its inception, has a mandate to build and maintain union databases of library resources available in Indian university libraries. The Centre has developed “IndCat: Online Union Catalogue of Indian Universities” that contains bibliographic records of books, serials and theses contributed by participating universities in all disciplines. The IndCat consists of bibliographic records that are collected, collated and merged from 142 participating universities in different bibliographic formats. These records are converted into one common format and merged into IndCat with records having holding information for each participating universities.

The IndCat is available in open access through in-house developed web interface at <http://indcat.inflibnet.ac.in>. Apart from the databases of books, serials and theses available through IndCat, the Centre also has other non-bibliographic databases developed for benefit of the academic community. The major union databases and number of records in each databases are listed below in Table 1.

Name of the Database	No. of Records	No. of Institution
Books	1,10,67,087	119
Current Serials	22,471	238
Serials Holdings	50,164	210
Theses	2,20,206	238
Subject Experts	15,800	500
Subject Experts (NISSAT)	24,000	715
Research Project	10,000	

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

The Database Management Group comprises of personnel with background in computer science and library science. 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. Personnel with computer science background are responsible for developing software tools for data conversion, data authentication as well as for developing web-based search interface for the union catalogue. Union Catalogue Management System (UCMS) and IndCat have been developed in-house to address the requirements mentioned above.

### 7.1.1. Major Achievement in year 2008-09

- Bibliographic data of books for eleven universities was merge into union database (IndCat).
- Bibliographic data for fourteen universities was received for the first time and updates were received from ten universities for the second time.
- Total number of bibliographic records in IndCat crossed one crore.
- Features and functionalities in UCMS were further enhanced. Significant improvement was made in the process of merging of bibliographic data into union database.
- New search interface was launched with the following features:
  - o Advanced Search
  - o State-wise Search
  - o Search within university
  - o Information about universities data records
  - o Downloading of bibliographical data in ASCII, CCF, MARC format

### 7.1.2. Software Tools Used for Union Catalogue

i) **CDS/ISIS (Computerised Documentation Service / Integrated Set of Information Systems):** The Centre has developed expertise in various features and functionalities of the CDS/ISIS software developed, maintained and distributed by the UNESCO. The software is used extensively to authenticate and reformat bibliographic data received from participating universities. The software helps in improving the qualitative value of bibliographic records. The records processed through CDS/ISIS are then uploaded to the union database of books using UCMS.

ii) **UCMS (Union Catalogue Management System):** The UCMS is windows-based application, developed in-house by the Centre. The UCMS is used for authentication and

re-formatting of bibliographic records received from universities as well as for merging new records into the existing union catalogue. The UCMS is developed in VB.net as a front-end and MS-SQL as a back-end. Major features of the software are as follows:

- User friendly GUI
- Duplicate checking of bibliographic records
- Import -Export facility of ISO file
- Update or changes of bibliographic records can handle either in individual records or globally (i.e. in full database)

iii) **IndCat:** IndCat is web-based search interface for the union database of books, serials, and theses. The interface facilitates users to interact with the union database and search, browse and display bibliographic records stored in MS SQL database.

### 7.1.3. Technology Used in IndCat

- **Dream viewer** is used to as an editor to design and develop JSP pages.
- **Cascaded Style Sheet (CSS)** is used to maintain uniformly look and feel on all pages.
- **JDBC** is used for database connectivity.
- **AJAX** is used to enable users to navigate books, serials, theses records in same frame.
- **Core Java, Servlet, JavaBeans** are used to create logic for searching and display of records.
- **Javascript** is used to validate the search criteria or click event.
- **MS-SQL** is used as back-end database. **Stored-procedure** is used to search large number of bibliographic records quickly.

### 7.1.4. Union Catalogues

#### 7.1.4.1. Union Catalogue of Books

##### 7.1.4.1.1. Process for Building Union Database of Books

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

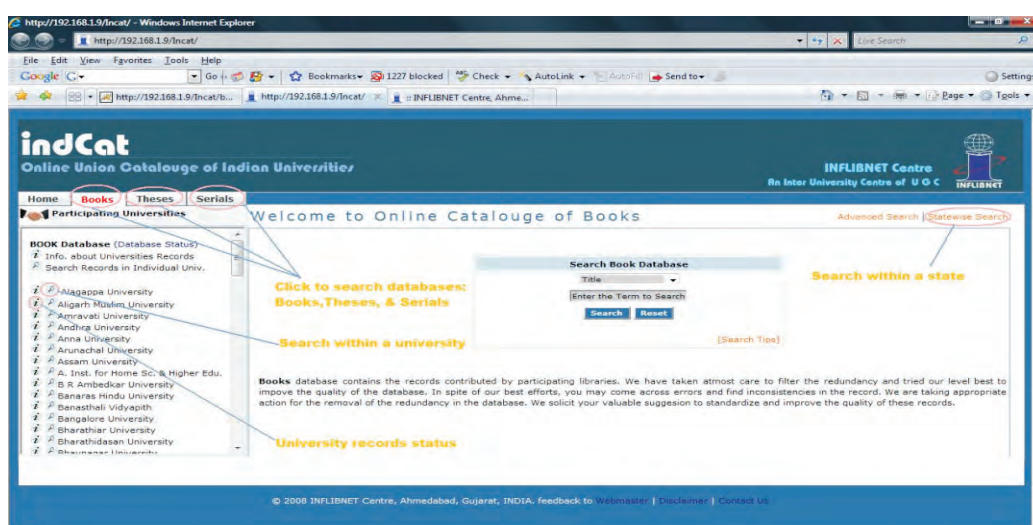
**Step 1.** INFLIBNET Centre receives bibliographic records from Indian universities in different formats, such as MS-Excel, MS-Access, Dbase/Foxpro, CDS/ISIS,

WINISIS, MS-SQL Backup, CCF, Libsys backup, MARC and its variant.

**Step 2.** Records received in different formats are converted into Common Communication Format (CCF) (for Tag Mapping using CDS/ISIS Software).

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

**Step 4.** IndCat is made searchable through a web-based interface.

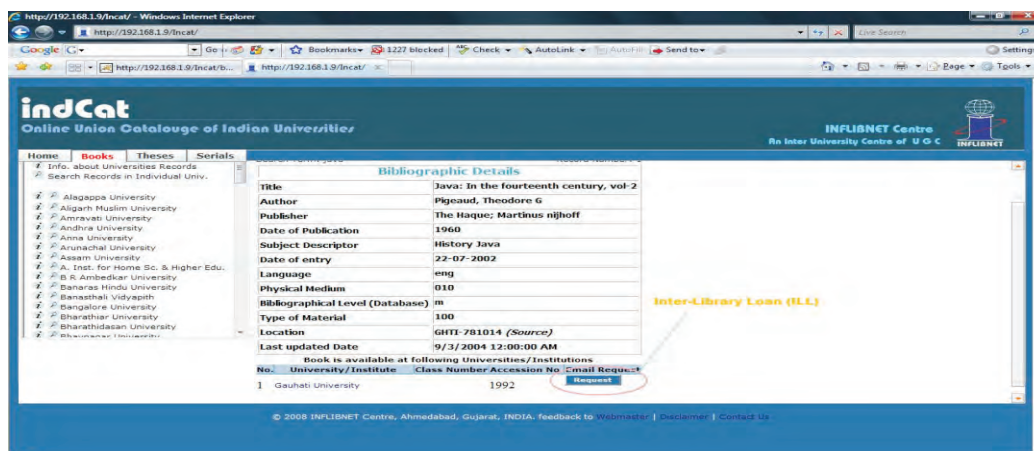


**Fig 2: Search Interface for Books, Theses and Serials**

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 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 containing complete bibliographic details of a book including its location that is displayed once a user clicks at the brief record. The descriptive record also provides option for ILL request.

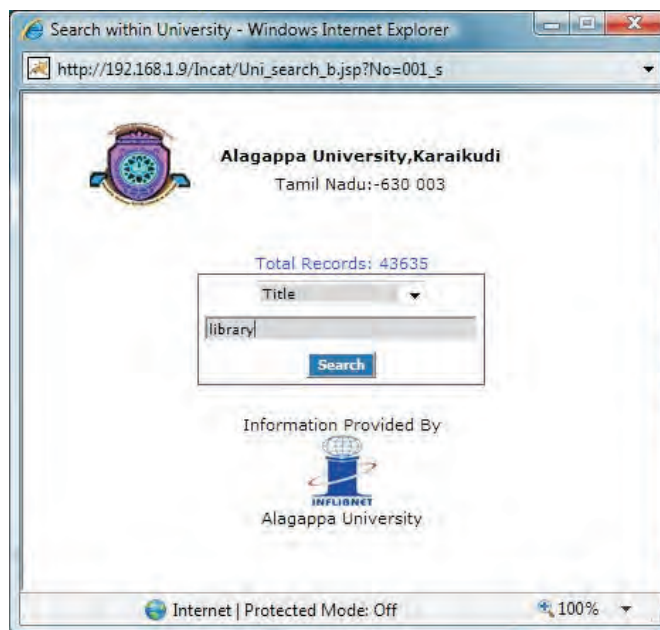


**Fig 3: Bibliographic Details and ILL Request of Searched Records**

### 7.1.4.1.2. New Functions and Features Added

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

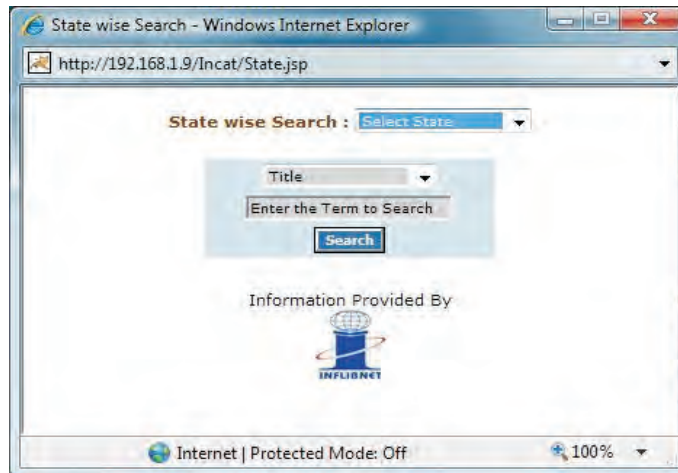
Click at search icon (🔍) for a university to restrict the search within that university. For example, to search a book in Alagappa University click at search icon adjacent to name of university, the screenshot given below will be displayed:



**Fig 4: Search Interface Restricted to a University**

All searches conducted on the search box given above will display search result for books available in Alagappa University. Likewise, user can expand his search to all university in a given state by choosing option “State-wise search”.

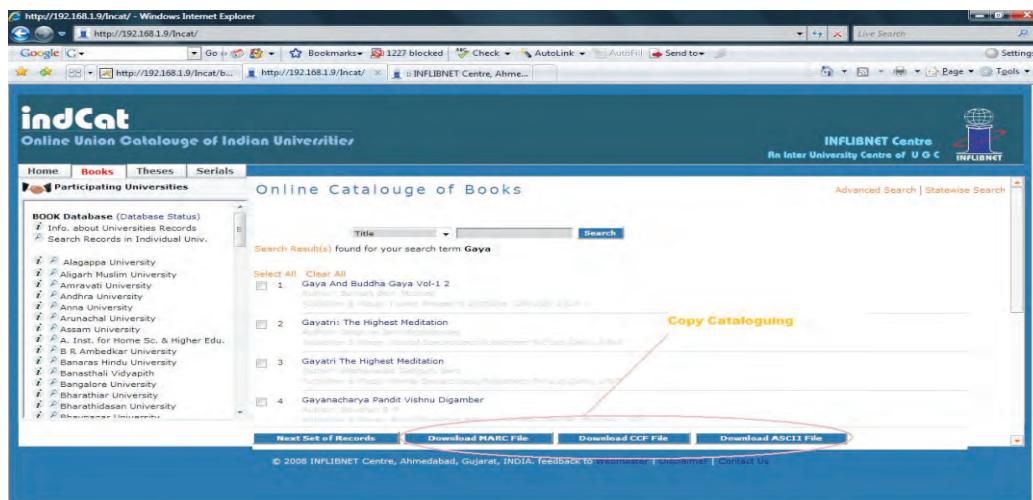




**Fig 5: Search Interface Restricted to a State**

## ii) Copy Cataloguing

Copy cataloguing is a new feature incorporated in the IndCat. Libraries can use IndCat to download requisite bibliographic records in MARC21, CCF or ASCII format. These records can be imported to SOUL software or any other local library software compliant to MARC21 format. Effectively, librarians / cataloguer can copy-catalogue bibliographic records for books instead of creating a new record which is a time - consuming process.



**Fig 6: Brief Format and Copy Cataloguing of Searched Records**

### 7.1.4.1.3. Bibliographical Records for Books added during Year 2008-2009

Details of new bibliographic records that were uploaded for participating university using UCMS is as follow:

Sr. No.	University Name	Total Records	Data Format
1	Bharti Vidhyapith, Pune	20212	MARC
2	Central Institute of Higher Tibetan Studies	2139	dbf File
3	Jai Na rayan Vyas University	4823	SOUL Backup
4	Jamia Milia Islamia, New Delhi	64177	ISO not in CCF
5	Jawaharlal Nehru University, New Delhi	311067	MARC ISO
6	Mizoram University	19585	ISO not in CCF
7	Yashwantrao Chavan Maharashtra Open University, Nashik	39475	SOUL Backup
<b>Total Records</b>		<b>4,61,478</b>	

**Table 2: Universities that contributed their bibliographic records for the first time**

Sl. No.	University Name	Total Records	Data Format
1	Banaras Hindu University		NewGenLib
2	Banasthali Vidhyapith	19034	SOUL Backup
3	Gandhigram Rural Institute, TamilNadu	125754	SOUL Backup
4	Gurukul Kangri Vishwavidyalaya, Hardwar	67348	CCF ISO
5	Maharashi Dayanand Saraswati University, Ajmer	18879	SOUL ISO
6	Tamil University		Autolib
7	University of Hyderabad	176217	VTLS
8	Veer Narmad South Gujarat University	175567	SOUL Backup
<b>Total Records</b>		<b>5,82,799</b>	

**Table 3: Universities that sent their updated bibliographic records**

Sl. No.	University Name	Total Imported Records in UCMS
1	North Gujarat University	24140
2	Cochin University	71903
3	University of Jammu	15539
4	Sri Padmavati Mahila Visvavidyalayam	37086
5	Gokhale Institute of Politics & Economics	82481
6	Gujarat University	196753
7	Jadavpur University	222479
8	Madurai Kamraj University	194412
9	Annamalai University	446070
10	University of Mumbai	702773
11	Delhi University	687852
<b>Total Records</b>		<b>26,81,488</b>

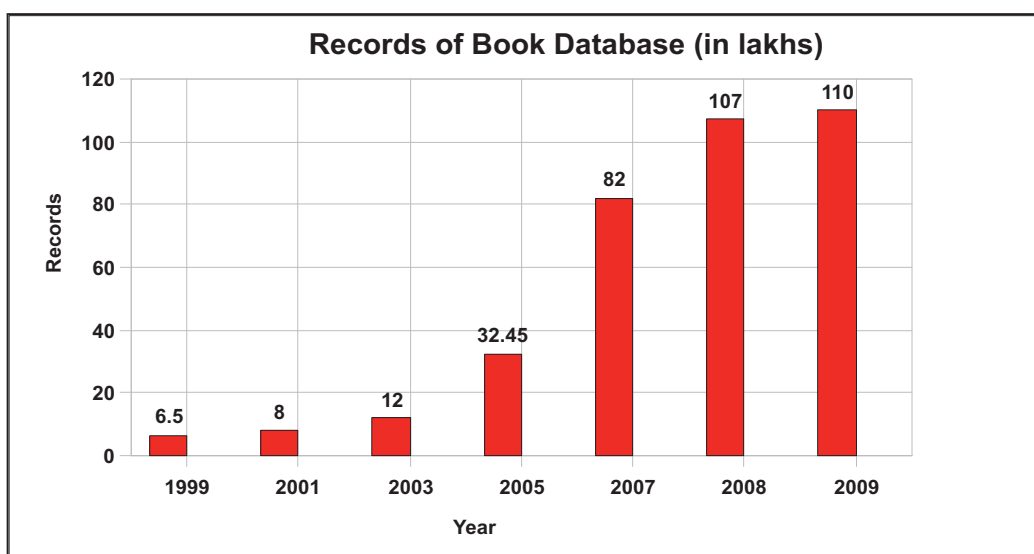
**Table 4: Bibliographic records authenticated and merged in union database**

Sr. No.	Details	Before April 2008	From April 2008 to March 2009
1	Unique Records	32,73,320	49,62,833
2	Holding Records	35,33,482	53,76,196

**Table 5: Total bibliographic records updated during year 2008-09**

### 7.1.4.1.3. Growth of Union Catalogue of Books

Building and maintaining a union catalogue is an ongoing activity involving collaboration of all participating libraries. The Indian Catalogue of Books is essentially an outcome of financial and logistic support that was offered to the participating universities by the Centre for creating bibliographic records of their library collections. With initial financial incentives backed-up with logistic support in terms of training and SOUL software, the Indian Catalogue of Books has witnessed rapid growth. The union catalogue of books has growths from 6.5 lakhs record in 1999 to 110 lakhs record in 2009 as depicted in Fig. 7 given below.



**Fig 7: Growth of Union Catalogue of Books**

### 7.1.4.2. Union Catalogue of Serials

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 participating universities.

### 7.1.4.2.1. 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 14,500 unique titles with 57,523 holdings information for 112 universities. Minimum bibliographic information along with holdings details and name of university is provided for each record. List of universities and number of records contributed by them are listed in the Appendix VII. Fig. 8 depicts growth of serials holdings database in terms of number of records.

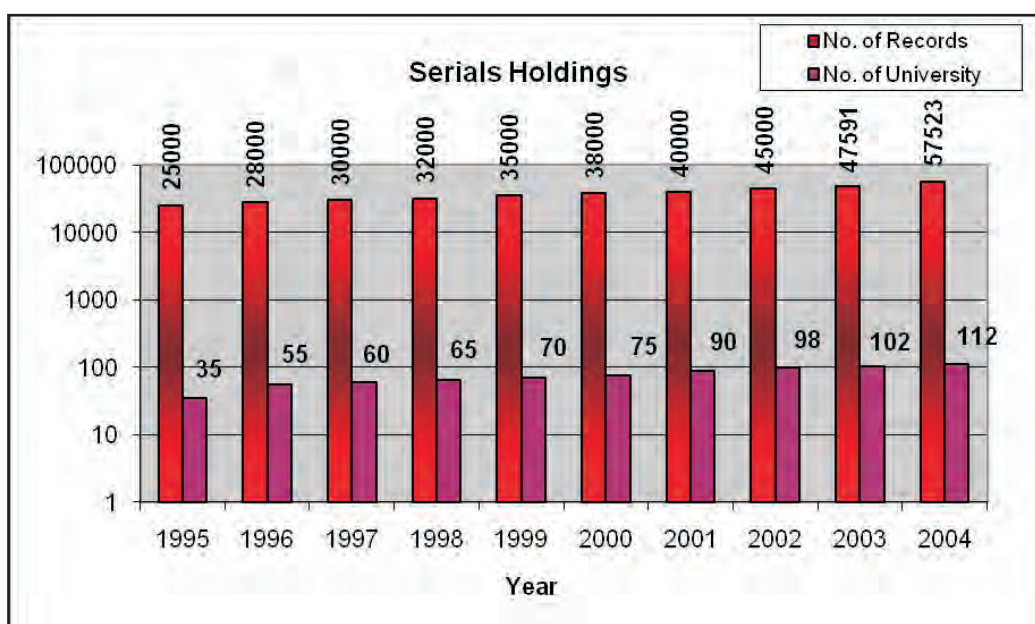
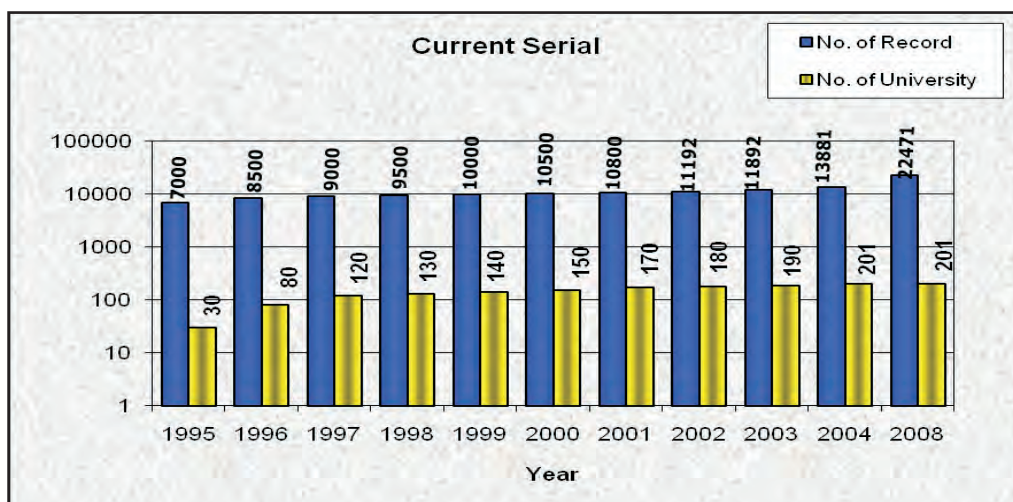


Fig. 8: Year-wise Growth of the Serials Holdings

### 7.1.4.2.2. Current Serials

The Union database of current serials (including journals, periodicals, annuals, serials) consists of 22,471 unique records subscribed by 201 university / institute libraries. This database provides journal titles with brief bibliographic information along with the names of subscribing library. The database also includes list of e-journals subscribed under the UGC-Infonet Digital Library Consortium with URLs of each journal. Fig. 9 is pictorial depiction of growth of current serials database in terms of a number of records from 1995 to 2008.



**Fig. 9: Year-wise Growth of the Current Serials Database**

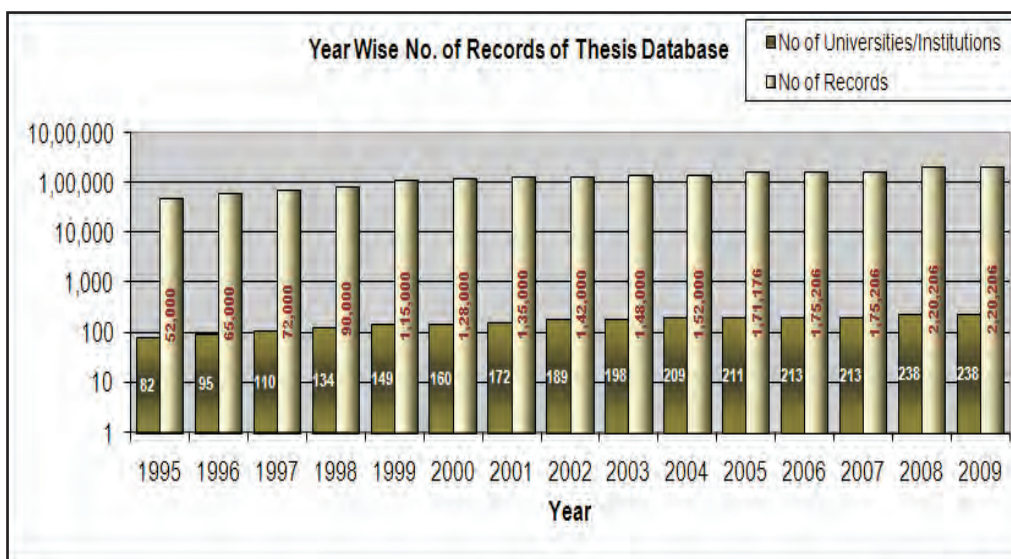
### 7.1.4.3. Union Catalogue of Theses

The Union Catalogue of Theses consists of bibliographic details of doctoral theses submitted to 241 universities / institutions in India. It contains 2,20,206 unique records in all disciplines from 1906 onwards. The bibliographic records for 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.

Project on Union Catalogue of Theses was taken-up in 1995 with 52,000 records from 82 universities. The database has grown to 2,20,206 records in March 2009 from 238 universities over a period of 14 years. The Table 6 and Fig. 10, given below, depict growth of theses database from 1995 to March 2009.

Year	No of Universities/ Institutions	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	238	2,20,206
2009	238	2,20,206

**Table 6: Growth in Number of Records in Theses Database: 1995 – 2009**



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

Theses database can be searched through IndCat interface by title, researcher, guide, university, department, year of submission, subject keywords, etc. List of the universities and the number of records contributed by them to the union catalogue of theses is given in the Appendix VIII.

## 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 the work on the library automation system for the member libraries and related utilities and packages.

### 7.2.1. SOUL 2.0

The dedicated team of the Software R & D Group has designed and developed an integrated library management system for automating Indian academic libraries. The SOUL 2.0, the new version of the SOUL (Software for University Libraries), was released by Prof. Sukhadeo Thorat, Chairman, University Grants Commission on 29<sup>th</sup> January 2009 at India Habitat Centre, New Delhi during the National Seminar on “Open Access to Textual and Multimedia Content: Bridging the Digital Divide” jointly organized by CEC, New Delhi and INFLIBNET Centre, Ahmedabad.



**Fig.11: Prof. Sukhadeo Thorat, Chairman, University Grants Commission, New Delhi Releasing SOUL 2.0**

SOUL2.0 is an state-of-the-art integrated library management software designed and developed by the INFLIBNET Centre based on requirements of college and university libraries. It is user-friendly software developed to work under client-server environment. The software is compliant to international standards for bibliographic formats, networking and circulation protocols. After a comprehensive study, discussions and deliberations with the senior library professionals of the country, the software was designed to automate all housekeeping operations in library. The software is suitable not only for the academic libraries, but also for all types and sizes of libraries, even school libraries.

SOUL 2.0 integrates five major operational modules namely Acquisition, Catalogue, Circulation, Serials Control and Administration .

The Key features of the each module of SOUL 2.0 are given below:

### 7.2.1.1. Acquisition

**Shri Yatrik Patel, Scientist C  
Sh. Swapnil Patel, Project Officer (CS)**

Acquisition Module facilitates automating the process of ordering, receipt, payment and budget control. Since Acquisition Module is

integrated with all other modules, records for ordered items are included in bibliographic database and are reflected in the library OPAC.

The Library acquires resources based on “Suggestions/Recommendations” made by its users. Libraries also select resources proactively by analysing statistics extracted from MIS (Management Information System) and by going through publisher's catalogue, publisher's websites or book reviews. Acquisition Module of SOUL supports every method of acquisition through following sub-modules:

- **Suggestion Management:** This sub-module manages requests for new documents from library users. Suggestion Management provides for the followings:
  - ✓ User can search for a duplicate title (to avoid redundancy) at the time of request. He / she can also select existing records for reordering or ordering of new edition of existing document.
  - ✓ To bypass the approval process, there is a facility for direct approval of request.
  - ✓ Sub module facilitates exporting records to CSV file so as to remove the rejected items from the database.
  
- **Order Management:** Order Management allows user to place new order, direct order, print and email purchase orders, send reminder letters to vendors (for non supply of orders), cancel order, etc.
  - ✓ Auto generated sequential order number
  - ✓ User can change the budget as well as the order copies at the time of order processing.
  - ✓ Cancellation of partial or complete order
  - ✓ Direct order to skip suggestion process
  
- **Receive Order and Accessioning:** The natural sequence of operation after placing orders is 'Receive the Items' from the vendors. The major function of this module is the accessioning process that includes:
  - ✓ Partial/ complete order receiving process
  - ✓ Auto generation of Accession Numbers
  - ✓ Direct MARC Entry of any title



- ✓ MARC record import facility
- ✓ Facility to create one MARC record for multiple copies of books as well as merging with the existing record.
- **Invoice and Payment:** Invoice and payment sub module allows user to process the invoices for the titles received and for payment (cash/cheque/Accounts Dept), generate “Credit Note” or “Refund” amounts for “Advance Payments”, forward the invoices to accounts department (Letter/e-mail) and other routine functions related to payment including the followings:
  - ✓ Regular and advance payment facility in invoice process
  - ✓ Overall as well as individual discount calculation
  - ✓ Generation of multiple invoice for the same order
  - ✓ Letter generation for payment settlement and forwarding to account section
  - ✓ Refund process of pending orders
  - ✓ Support for multiple invoice per order along with payment settlement

### 7.2.1.2. Catalogue Module

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

Catalogue Module is the most important module of the LMS that facilitates creation, updation and management of bibliographic database as well as their retrieval. Major sub modules of Catalogue Module and their features and functionalities are as follows:

#### ➤ **Catalogue Data Operation**

- ✓ Unicode-based multilingual support for Indian and foreign languages.
- ✓ Compliant to International Standards such as MARC21, AACR-2, MARCXML.
- ✓ Supports cataloguing of electronic resources such as e-journals, e-books or virtually any type of material.

- ✓ Supports requirements of digital library and facilitate linking to full-text articles and other digital objects.
- ✓ Provides default templates for data entry of different type of documents. User can also customize their own data entry templates.
- ✓ Supports authority files of personal name, corporate body, subject headings and series name.
- ✓ Global search and replace and deletion of bibliographic record.

### ➤ **Report Generation**

- ✓ Provides freedom to users for generating reports of their choice and format along with selection of fields and search parameters.
- ✓ Customised spine label and barcode generation of any size.
- ✓ Provides facility for sending reports through e-mail, allows users to save the reports in various formats such as Word, PDF, Excel, MARCXML, etc.

### ➤ **Data Export/Import**

- ✓ Import and export from MARC (data downloaded from other catalogues like WorldCat or LoC / files obtained from the publishers).
- ✓ Convert CCF (Common Communication Format) records into MARC format.
- ✓ Import/Export of MARCXML data into SOUL.
- ✓ Open source application convert CCF (Common Communication Format) records into MARC format.
- ✓ Provision for adding accession numbers to imported data from any source.

## 7.2.1.3. Circulation Module

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

The Circulation Module facilitates automation of a variety of tasks including check-out, check-in, renewal, reservations, fine calculation, maintenance and retrieval of borrowers

records and printing of reports and notices. Major sub modules of Circulation Module and their features and functionalities are as follows:

## ➤ **Membership**

- ✓ Provision for creation, modification and deletion of library members.
- ✓ Hierarchical structure to suite Indian academic scenario for membership management.
- ✓ Provision for including picture of library members.
- ✓ Facility to issue “No-due certificate” to member.
- ✓ Creation of customised member card for library users and create list of members with their details with different filters.

## ➤ **Transactions**

- ✓ All transactions like issue, return, renewal, reservation, lost, missing, withdraw, overdue, reminders to member.
- ✓ Provision for “Overnight” and “On-premises” lending.
- ✓ Provision for Group Issue.
- ✓ Comprehensive reports.
- ✓ Interlibrary Loan.
- ✓ Book bank issue and return based on category.
- ✓ Maintenance function for all in-house operation e.g. binding, lost, missing, withdrawal etc.
- ✓ Stock verification function using multiple option e.g. barcode, import of csv file.
- ✓ Provision for “Book Transfer” transaction.

### **7.2.1.4. Serials Control Module**

**Shri Yatrik Patel, Scientist C**  
**Ms. Heli Banker, Project Officer (CS)**

Serials Control Module is designed to manage magazines, journals, newspapers, monographic serials, etc. subscribe by the library. The module automates the process of ordering, claiming, check-in of individual issues of journals, sorting and binding of

received issues of journals. Major sub modules of Serials Control Module and their features and functionalities are as follows:

### ➤ **Titles entry**

- ✓ Entry of serial titles subscribed by the library in different formats like print, electronic, CD-ROMs, online etc in MARC21 format.
- ✓ Separate title entry/edit the serials that are subscribed by the library can directly be inserted into the database using this function.
- ✓ Provision for indexing of articles in issues of journals subscribed by library in MARC21 format.

### ➤ **Suggestions Management and Ordering**

- ✓ Comprehensive request management.
- ✓ Approval/rejection of new serials with provision for re-approving rejected serials.
- ✓ New orders for serials as well as renewal of orders either directly with the publisher or with a vendor.
- ✓ Cancellation of whole order or any specific item of the order.

### ➤ **Payment**

- ✓ Process advance payment.
- ✓ Process invoices either for all orders or part of orders or standing order.
- ✓ Combined invoice for multiple order from same publisher/supplier.
- ✓ Partial payment or full payment per invoice.
- ✓ Refund for non-supply of certain issues or in case when the periodical ceases to publish.

### ➤ **Check-in Process**

- ✓ Comprehensive parameters based schedule generation with provision for modification/deletion of schedule.

- ✓ User-friendly check in process with provisions to add additional issues/complimentary issues.
- ✓ Provision for removal of received/non-received issues.

### ➤ **Binding**

- ✓ Out-sourcing the binding or in-house binding.
- ✓ Selection based set preparation.
- ✓ Order process and receiving / accessioning of bound volumes.
- ✓ Splitting volumes or joining sets at the time of receiving/accessioning.
- ✓ Generate reminder to binder.
- ✓ Provision to print labels for bound volume of journals.
- ✓ Provision for in-house binding, skipping ordering, invoicing and payment process.

## **7.2.1.5. Other Utilities Complementing/ Supplementing SOUL 2.0**

### **7.2.1.5.1. Data Transfer Utility**

**Mr. Swapnil Patel, Project Officer (CS)**  
**Ms. Heli Banker, Project Officer (CS)**  
**Mr. Divyakant Vaghela, Project Officer (CS)**

Data Transfer Utility is especially developed for those users who want to migrate their records from SOUL 1.0 to SOUL 2.0. This utility provides modular

options for data transfer. SOUL 1.0 user can transfer whole database or part of their database as per their requirement by choosing corresponding options.

### **7.2.1.5.2. Database Backup / Restore Utility**

**Mr. Swapnil Patel, Project Officer (CS)**  
**Ms. Heli Banker, Project Officer (CS)**

This utility has been exclusively developed for those users who are using Database Engine supplied along with SOUL 2.0

software. This utility can be used for taking backup from SQL server and to restore it in the same or another SQL server.

### 7.2.1.5.3. SIP (Standard Interchange Protocol) Version 2.00 Server

**Mr. Yatrik Patel, Scientist C**  
**Mr. Divyakant Vaghela, Project Officer**

SIP is a protocol that is limited to the exchange of messages between and among computer-based applications to enable them to perform the functions necessary to lend and borrow items, to

provide controlled access to electronic resources, and to facilitate co-operative management of these functions. SIP initiation and response messages are transported via TCP/IP.

The TCP/IP application was developed using sockets. This application synchronously communicates on an identified port that is customised for this purpose. It receives message in SIP2 format (string format), and it interprets the message, then the application checks the database and sends response accordingly to that particular client in SIP2 string format.

### 7.2.1.5.4. NCIP (NISO Circulation Interchange Protocol) 2.00 Server

**Mr. Yatrik Patel, Scientist C**  
**Mr. Divyakant Vaghela, Project Officer**

NCIP is a protocol that is limited to the exchange of messages between and among computer-based applications to enable them to perform the functions necessary to lend and

borrow items, to provide controlled access to electronic resources, and to facilitate co-operative management of these functions. NCIP initiation and response messages are transported via TCP/IP.

The TCP/IP application was developed using sockets. This application asynchronously communicates on an identified port that is customised. It receives message in NCIP V2.0 XML format and interprets it. Then the application checks the database and sends response message accordingly to that particular client in NCIP V2.0 XML format.

In overall development of SOUL following team members are involved

Mr. Yatrik Patel  
Mr. Rajesh Chandrakar  
Mr. Divyakant Vaghela  
Mr. Dinesh Rayka  
Mr. Swapnil Patel  
Mr. Heli Banker

Development Tools Used: Microsoft Visual Studio .Net 2005, Microsoft SQL Server 2005



**Fig. 12: State-wise distribution of SOUL software as on 31st March 2009**

Besides developing and maintaining SOUL software, the Software R & D group has also contributed to other software development activities of the Centre as elaborated below.

### 7.2.1.5.5. Transliteration Utility

Mr. Yatrik Patel, Scientist C  
Ms. Heli Banker, Project Officer, (CS)

Theoretically, transliteration is mapping from one system of writing into another in systematic way, word by word, or ideally letter by letter. Transliteration attempts to be exact,

so that an informed reader should be able to reconstruct the original spelling of unknown transliterated words. The transliteration utility involves the following three major operations:

**i) Converting Simple Paragraph from Roman-Script to any other Indic Script:** Type a word / sentence of Hindi or any other Indian language in the text box in Roman Script.

Select language and click at convert to get the sentence transliterated in desired language. One can also reconvert the sentence into Roman Script.

**ii) Transliteration of Specific Tag within a Selected Record:** Using this option one can select a single record and its specific tag number. By converting it one can get the transliterated record. One can either replace the existing tag value with transliterated value or add it as additional tag value. The operation mentioned above can be performed on a selected record for given field/subfield (i.e., tag number). For example, if title (tag no. '245' and sub field 'a') is a book in Hindi entered in transliterated format, one can choose to convert it into Hindi by choosing the record and tag number to perform this operation.

**iii) Transliteration of a Specific Field of any Table within a Database:** One can select a specific database and make connection to it. Once a connection is successfully made, list of tables within that database will be displayed. By selecting table, one can get list of fields. User can either get the whole list of values for that field or filter it by specific value. By selecting specific rows one can transliterate it into selected script and replace it into the database.

### 7.2.2. Payroll System (As per 6 CPC)

**Ms. Ami Modi, Project Assistant  
Mr. Ankur Parikh, Accounts Section  
Mr. Yatrik Patel, Scientist C**

Software R & D Group has developed a fully featured payroll system implementing all recommendations, rules and regulation as per Government of India orders for VI Pay

Commission. Monthly pay of all employees of the Centre is being computed using this system.

### 7.3. Networking, Testing & Quality Management (NTQM) Group

The Networking, Testing & Quality Management (NTQM) Group was set-up for promoting R & D activities in area of Networking and Quality Management in the Centre and also provides support to universities in maintenance of their network at their campuses. Major responsibility of this Group is to create and maintain state-of-the-art IT infrastructure at the Centre for meeting the quality in network related activities by defining tasks and routines that are pre-requisites for managing Wide Area Network (WAN), Local Area Network (LAN), High-end servers, network security, network applications, systems maintenance, software development, training, etc. In addition, this Group is also coordinating and monitoring the UGC-Infonet, a nationwide communication network of Indian universities under UGC.

Major achievements of the Group during the period under review are as follows:



Two dedicated IBM servers were procured and installed for extending Web services, E-mail services, union database services, managing mailing lists etc. The local area network infrastructure has been upgraded with structured cabling (10/100 Mbps, Racks, I/Os, Jack panels). Nine Layer-2 switches of model DES 3526, DES 12264 and HP Bolurve 1700-8 were added to the existing infrastructure to improve efficiency of networks at the Centre. Anti-virus and anti-spam protection was established at user level with server side administrative management. Dedicated firewall was installed at the Centre with DMZ security support for protecting major servers including Web server, DNS, Mail server, Database server etc. to secure LAN and WAN environment from malicious virus/worm/spyware/adware. With installation of Intrusion Detection System, attacks and phishing attempts are timely being detected and blocked.

The Group is responsible for coordinating the UGC-Infonet Connectivity Programme with UGC, ERNET, and beneficiary universities. 157 universities have so far been given the benefit of high-speed Internet connectivity including eight universities that were added during the year under report. The Academic community in Indian universities are effectively using UGC-Infonet infrastructure for accessing high-impact scholarly e-journals made accessible to the universities under the UGC-INFONET Digital Library Consortium. Further, details about UGC Infonet Connectivity Programme are given below.

The Group has also organized specialized training programmes on network management and library automation in coordination with universities. Specialized training programmes were organized on network configuration and management in collaboration with other universities wherein focus was Linux based open source tools. The Cyberoam 50i firewall / proxy was configured to protect Wide Area Network and Local Area Network from the external attacks.

TrendMicro, anti-virus protection software was deployed on all the Client PCs with automatic virus definition updates from the Server. The Group undertook the study of the interest of the net users at the Centre by analysing the search visits, pattern on searching and traffic management which is used for planning the upgradation of the network infrastructure.

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

University Grants Commission (UGC), with its responsibility to coordinate and maintain high standards in university education, launched an ambitious 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 and has set up its own nationwide communication network named UGC-INFONET with INFLIBNET as its executing and coordinating

agency. The scheme was inaugurated by the then Hon'ble Prime Minister of India, Shri Atal Bihari Vajpayee with the commencement of UGC's Golden Jubilee celebrations on 25th December, 2002.

All universities covered under Section 12B of the UGC Act, 1956 (currently 171) are eligible to join the UGC-INFONET Connectivity Programme. Initially, 50 universities with potential for excellence in research were covered under the scheme. Subsequently, the service was extended to 100 universities. The scheme has now been extended to 157 universities and all Inter-University Centres of the UGC in the year 2008. All universities in North-East have been given 2 Mbps Internet bandwidth on priority basis under the special drive. New universities can join when the university gets 12 B status from UGC.

Services of a national Internet Service Provider (ISP), having national presence, are hired to provide Internet connectivity as well as for resources conceptualization, planning, establishing and maintaining network and communication infrastructure for all universities covered under 12 B Act of the UGC. The ERNET India is the ISP for the UGC-INFONET since the inception of the scheme in 2002. The UGC had signed an MoU with the ERNET India in April 2002 for providing Internet connectivity to the beneficiary universities. 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 UGC-INFONET is based on open IP platform, deploying state-of-the-art technologies like IP multicast, TCP spoofing and other Internet tools that provide interactive education on PC and TV, enabling on-line response to queries. Open systems architecture ensures support for current and future applications.

### **7.3.1.1. Aims and Objectives**

Communication and networking technology is evolving at a rapid pace to meet the ever growing requirement of providing information in any form, at anytime, anywhere. Device-independent networks are set-up to enable flexibility of access, and also meet the requirements arising out of convergence of technologies. Regular technological inputs are necessary to upgrade the network infrastructure and to ensure delivery of upcoming applications and content to the education and research community in the country. The UGC and the INFLIBNET have joined hands with ISP to meet these challenges. The UGC-INFONET provides Internet bandwidth, a pre-requisite for delivery of scholarly content subscribed through the UGC-INFONET Digital Library Consortium. Salient features of UGC-INFONET Connectivity Programme are as follows:

- a) Serves as a vehicle for distance learning and facilitates spread of quality education all over the country;

- b) Facilitates delivery of education material including electronic journals and bibliographic databases to the remotest areas of the nation;
- c) Serves as a resource for researchers and scholars for tapping the most up-to-date information;
- d) Act as a medium for collaboration among teachers and students, not only within the country but also all over the world;
- e) Facilitates Intranet infrastructure for beneficiary university; and
- f) Serves as a channel for globalization of education and facilitates the universities in marketing their courses and project their R & D activities.

In order to meet the objectives mentioned above, the scope of the work assigned to the ISP is as follows:

- i) Designing network infrastructure for the UGC-INFONET Connectivity Programme;
- ii) Providing space for web services to the universities / UGC for hosting their web sites;
- iii) Installing equipment and establishing Internet connectivity at the universities;
- iv) Training of personnel from universities to manage and maintain their networks and connectivity over ISP's backbone in collaboration with INFLIBNET; and
- v) Providing mailing and other services to the universities and the UGC offices.

The major benefits of the UGC-INFONET Connectivity Programme are as follows:

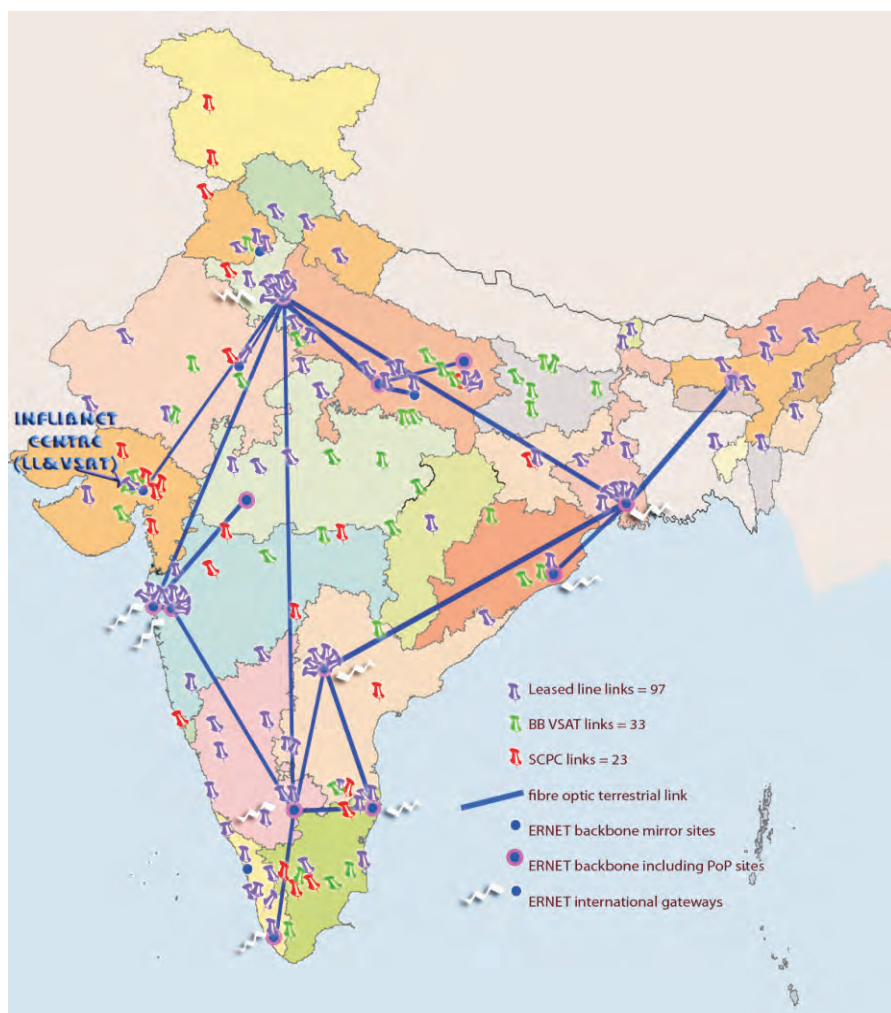
- Dedicated bandwidth upto 2 Mbps (1:1) with possibility of further enhancement;
- Universities may host their own Web sites and other resources;
- Mirrored Website on ISP servers or data centres;
- Universities that do not have a Web server, can host their Web sites on ISP servers with domain name desired by universities;
- All servers at ISP site are maintained regularly to provide uninterrupted services;

- Universities can host academic content on Intranet server;
- Full-text e-resources and bibliographic databases through the UGC-INFONET Digital Library Consortium can be accessed on secured link with IP authentication;
- Bandwidth can be increased based on usage in a university;
- Assist university to establish their network infrastructure and Campus Wide Network; and
- Train the manpower to handle the network properly.

The scheme is operated and executed by the INFLIBNET Centre under the guidance of Central Connectivity Monitoring Committee (CCMC) constituted by the UGC. The CCMC decides detailed architecture and type of connectivity options and bandwidth for each university in consultation with universities. The Committee also approves one-time cost and tariff for annual subscription and terms of payment for various types of connectivity.

### **7.3.1.2. Implementation Methodology**

ISP maintains PoPs (Points of Presence) in various cities for providing Internet connectivity to their subscribers. The ERNET India, the current ISP for INFONET Programme, maintains 15 PoPs in the country at various cities along with a judicious mix of terrestrial and satellite-based wide area networks. All existing universities are connected to one of the 15 PoPs of ERNET using different types of connectivity options mentioned below at 7.3.1.3. After a university signs the MoU, the INFLIBNET Centre places confirmed order with ERNET for providing Internet Bandwidth to the given university based on the technical feasibility. In case of a new university, the ERNET invoices the INFLIBNET Centre for 90% of the one-time cost of equipment and 10% to the concerned university payable in advance, as per the quardipartite agreement signed between the INFLIBNET Centre, the ERNET, the UGC and the university. On receipt of payment, the ERNET sets-up requisite communication equipment such as IDU, Antenna, Modem, Router, etc. in a place allocated by the University to INFONET Programme. The ERNET connects these equipments with one of the 15 PoP Centres. Each PoP, in turn, gets connected to the National / International Gateways as shown in the Fig. 13 given below:



**Fig.13: ERNET Network with PoP Centre**

### 7.3.1.3. Connectivity Options and Bandwidth Upgradation

UGC-INFONET is planned to overlay on the ISP's infrastructure including a nationwide terrestrial backbone and a complimentary satellite Wide Area Network (WAN) with bandwidth ranging from 256 Kbps to 2 Mbps. Along with the connectivity, 16 IP addresses are given to each beneficiary universities for their servers and other network devices including proxy server, web server, list server, library server, digital library server, firewall etc. Currently, one of the following options is used for providing connectivity to universities depending upon the physical location of the university, its proximity with Point-of-Presence (PoP) of the ISP hub and bandwidth requirement:

- Leased Lines (LL)
- Radio Link
- Broadband VSAT (FTDMA)

The chosen ISP is capable of providing a complete range of connectivity options to the universities depending upon their geographical location and bandwidth requirements. Since terrestrial media offers greater scalability and performance, efforts are made to connect the universities on the terrestrial mode. Currently, the UGC-INFONET is a mix of terrestrial and satellite communication provided through VSAT.

### **i) Leased Lines (LL)**

In localities where telecom network is well developed, the ERNET (current ISP) hires dedicated leased lines from telecom service providers like BSNL. Such links are primarily for 256 Kbps to 2 Mbps speeds. Since fiber optic connections facilitate better connectivity, efforts are being made to bring fiber links as near to a given university as possible. Most of the universities have potential to become hub of communication for the affiliated colleges. Therefore, service providers locate their terminal essential at the university premises. In the year 2006, it was decided to provide 2 Mbps (1:1) LL connectivity and many universities are under the process of upgradation. 126 universities have already been upgraded to Leased Line 2 Mbps (1:1) upto 31st March 2009.

### **ii) Radio Link (RF)**

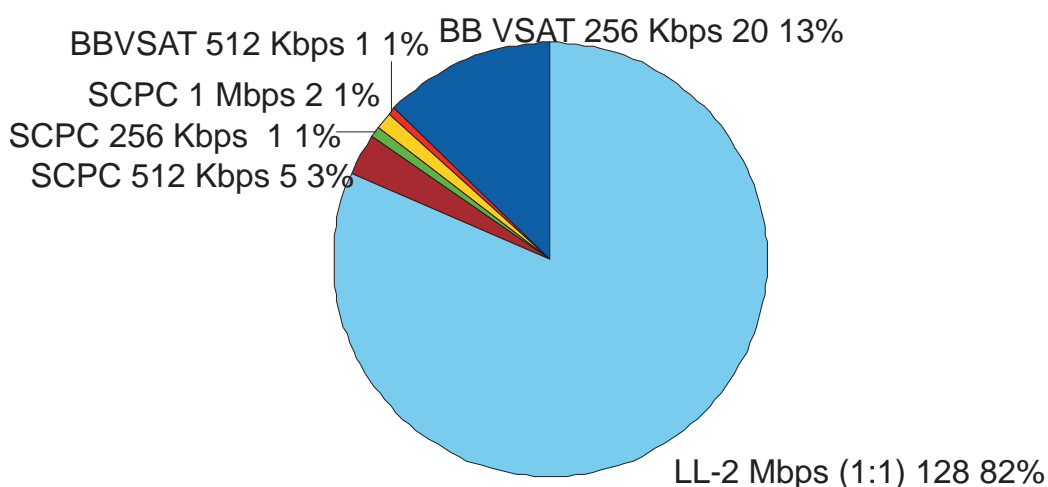
Universities, located within 30 Kms of the ISP's PoPs, are provided with dedicated radio links operating from 256 Kbps to 2 Mbps speeds. These links require line of sight clearance from the network node to the concerned university. Radio links are reliable and operational cost includes only maintenance of the equipment and a nominal license fee.

### **iii) Broadband VSATs (FTDMA)**

Due to the uneven and terrestrial limitations of the areas where universities are located, it is difficult to have only one type of connectivity especially with leased lines. Some of the remote universities are being served using broadband VSATs. These VSATs operate in a shared bandwidth mode for optimal utilization of the precious satellite resources. Since Internet traffic is asymmetric in nature, Broadband VSATs are optimized to receive high bandwidth and relatively smaller capacity for outgoing traffic (shared channel of up to 307 Kbps) from a university. Many ISPs operate a Satellite based Wide Area Network (SATWAN) using C-Band transponder on INSAT-3C. SATWAN hub, located at a different place supports Broadband VSATs. Single Channel Per Carrier (SCPC) VSATs are used for establishing dedicated two-way channels of 256 Kbps to 2 Mbps raw from Hub. SCPC VSATs are ideal for those universities, which are located in remote areas but wish to host their own Internet server for providing access to their information through Internet all over the world. A number of universities are provided with FTDMA VSATs.

### Connectivity Status of Universities as on 31-03-2009

BB VSAT 256 Kbps	20	
BBVSAT 512 Kbps	1	
SCPC 1 Mbps	2	
SCPC 256 Kbps	1	
SCPC 512 Kbps	5	
<b>Total on VSAT</b>		29
<b>LL-2 Mbps (1:1)</b>		128
<b>Total Connectivity</b>		157



### Connectivity Status of IUCs as on 31-03-2009

LL-2 Mbps (1:1)	3
RL-512 Kbps(1:3)	1
LL-512 Kbps(1:3)	1

#### 7.3.1.4. Future Endeavours

It is envisaged that the UGC-INFONET Connectivity Programme will be extended to all the universities covered under 12 B Act of the UGC. The INFLIBNET Centre has launched its Associate Membership programme for UGC-INFONET Digital Library Consortium wherein private universities can join the consortium and subscribe to selected e-resources on payment basis. Such universities will have to have their own Internet

connectivity and Infrastructure. Moreover, colleges covered under 12 B Act of UGC may also be covered under the scheme. However, there are possibilities that all colleges may get connected under the National Mission on Education through ICT. The UGC/INFLIBNET Centre is working with the MHRD to extend the benefit of access to e-resources to colleges under the National Mission on Education through ICT.

The National Mission on Education through ICT and National Knowledge Network may also be instrumental in providing enhanced connectivity to the universities. The INFLIBNET Centre / UGC are keeping a tab on all such opportunities that can benefit the university system in India.

## 7.4. Web Services R & D Group

### Core Members

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

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

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

**Sh. Rajeev Kumar, Scientist B (CS)**

### Supporting Members

**Shri Rajesh Chandrakar, Scientist B (LS)**

### Project Staff

**Shri Yogesh J. Rathod, Project Officer**

**Shri Dharmesh Kumar A. Shah,**

**Technical Assistant (CS)**

**Ms Ami R. Modi, Project Assistant (CS)**

The Centre uses web technology to provide organized and structured access to its services and resources to the user 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 user community in the universities. The Web Development Group has specially 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, independent web sites for its different 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/>)**

The Centre maintains comprehensive Websites in English and Hindi. Several new additions were made to the new version of the Institute's Web site. 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 year under report, was launched with fillable forms, internal circulars, committees and their constitutions, Bye Laws, Memorandum of Association, etc.

The English version of the new website was launched by Prof. Sukhdeo Thorat, Chairman, UGC on 23rd June 2008 at Hotel Fortune Landmark, Ahmedabad. The Hindi version of the Website was launched by Prof S S Kadam, Vice Chancellor, Bharati Vidhyapeeth, Pune and Chairman, UGC Expert Team on XI Plan for the INFLIBNET Centre on 27th November 2008. The new website of the Centre has the following main features:

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

### **Mirror Site**

The Centre maintains a Mirror site on ERNET India Delhi server accessible at:  
<http://www.inflibnet.ernet.in/>



Fig. 14: INFLIBNET's Web site in English and Hindi

### 7.4.2. UGC InfoNet Digital Library Consortium (<http://www.inflibnet.ac.in/econ/>)

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

- Search and browse interface for more than 5,000 journals covered under the Consortium;
- Classified index to journals covered under the Consortium;
- Search interface for member institutions (universities) and e-resources accessible to each one of them;
- E-resources Access Management System (E-RAMS) designed to provide access to usage statistics to member universities and for monitoring their complaints;
- Detailed tutorials on each e-resource;
- Licensing and fair use;
- Associate membership programmes and information on how to join the Consortium; and
- Guidelines of UGC-Infonet Digital Library Consortium.



Fig. 15: UGC-Infonet Digital Library Consortium Website

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

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 module workflows
- Online chat and feedback mechanism
- FAQs / training programmes, etc.
- Utilities and updates for SOUL users



Fig 16: Website for SOUL 2.0

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

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-Infonet Digital Library Consortium and INDEST-AICTE Consortium, 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:

- ✓ Searchable interface for member colleges
- ✓ Eligibility
- ✓ Online registration for colleges
- ✓ E-resources proposed to be included for colleges and for cross-subscription amongst technical institutions and universities
- ✓ User's guide and tutorials on e-resources.



Fig.17: N-LIST Project website

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

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

- Rules and Regulations
- MoA
- All Circulars
- All types of forms ( fillable pdf)
- Committees and their constitution
- Leave Information System
- List of holidays
- Presentations



Fig.18: INTRANET Website

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

The INFLIBNET Centre has entered the world of Web 2.0 and Library 2.0 with the 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/>)

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>)

The INFLIBNET Centre has recently 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.

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

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

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

The Centre uses "YouTube" to upload multimedia video files. All the events held at INFLIBNET Centre are recorded and the content are uploaded on to the You Tube for the benefit of the users.

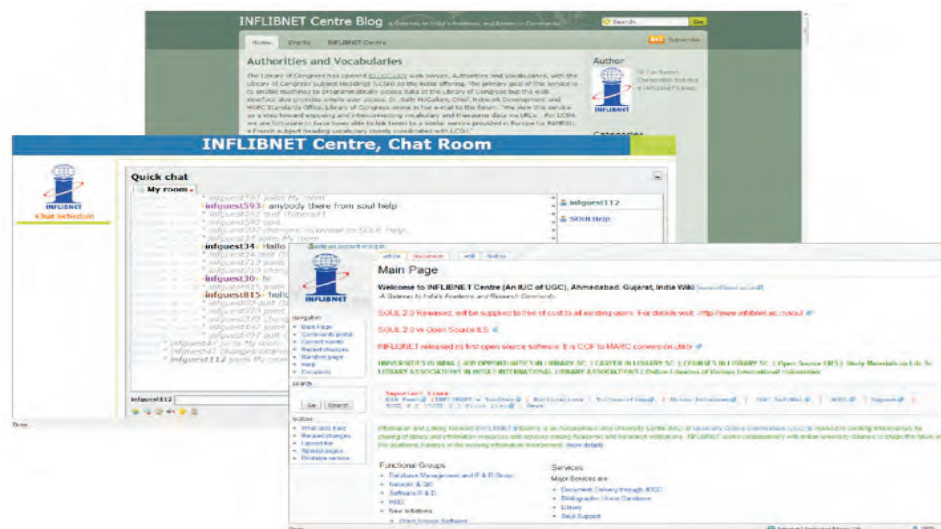


Fig. 19: Web 2.0 Technologies Websites

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

The Centre has developed and installed RSS Aggregation Service on its website. The service is targeted to users of the UGC-Infonet Digital Library Consortium. The RSS Aggregation Service facilitate 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
- Get Feed through SMS and Email



Fig. 21: INFLIBNET's RSS Feed Aggregation Website

### 7.4.6.6. Library Tool Bars

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 was released with enhanced features and functionalities.

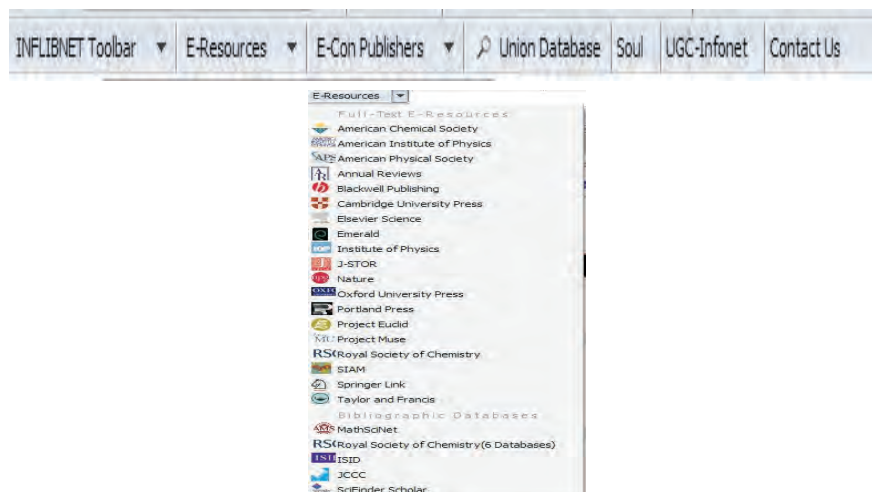


Fig. 23: INFLIBNET's Toolbar

### 7.4.7. INFLIBNET's Institutional Repositories (<http://ir.inflibnet.ac.in:8080/jspui/>)

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, an open source digital library software developed by the Massachusetts Institute of Technology, 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, index, store, 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 1251 articles as on 31st March, 2009 besides course materials, newspaper clippings, etc.

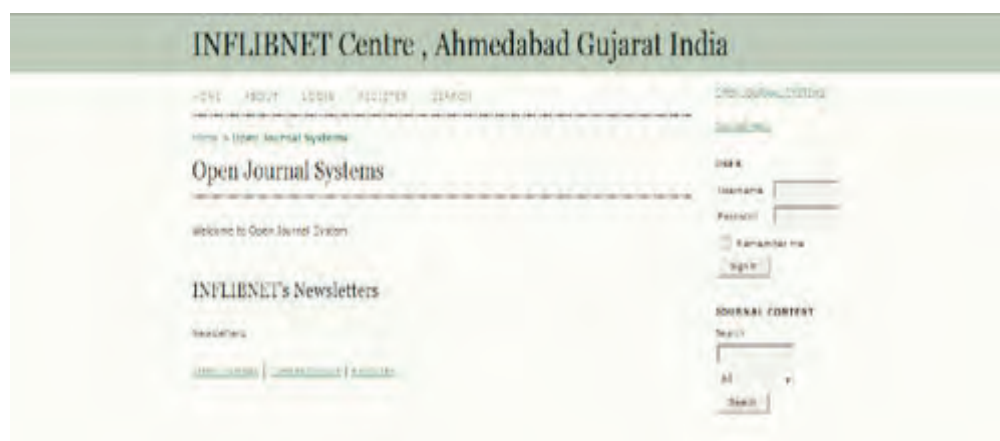


Fig. 20: INFLIBNET's Institutional Repository (IR) on Dspace

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

The Centre has implemented a journal publishing system using open source software called Open Journal System (OJS) to facilitate publication of electronic journals in open access environment. The main features of OJS are:

- Configure publication of journals as per their requirements, define review process, etc.
- Online submission and management of all content
- Subscription module with delayed open access options
- Comprehensive indexing of content part of global system
- Reading tools for content, based on field and editors' choice
- Email notification and commenting ability for readers
- Complete context-sensitive online help support



**Fig. 22: Open Journal System at INFLIBNET**

### 7.5. E-Resource Management Group

The UGC-Infonet Digital Library Consortium was formally launched in December 2003 by Honourable Dr. A P J Abdul Kalam, the then President of India, soon after providing the Internet connectivity to the universities in the year 2003 under the UGC-Infonet Connectivity Programme. The Consortium proved to be a recipe to university libraries which have been discontinuing subscription of scholarly journals because of "serials crisis" that especially 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 Consortium provides current as well as archival access to more than 5,000+ core and peer-reviewed journals and nine bibliographic databases from 23 publishers including commercial publishers, scholarly societies, university presses and aggregators in different disciplines. The programme has been implemented in a phased manner. In the first phase that began in 2004, access to e-resources were provided to 50 universities that had Internet connectivity under the UGC-Infonet Connectivity Programme of the UGC. In the second phase during 2005, 50 more universities were added to the programme. So far 157 Universities out of 171 that come under the purview of UGC, have been provided differential access to subscribed e-resources. E-resources accessible to individual universities can be identified through the INFLIBNET website <http://www.inflibnet.ac.in/econ/>. 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 benefit of subscription to e-resources would also be extended to the colleges, to begin with the College for Potential with Excellence (CPE) and automation colleges. 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.

### **7.5.1. Objectives**

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

- to subscribe electronic resources for the universities at a highly discounted rates of subscription and at the best terms and conditions;
- to extend the benefit of consortium-based subscription to all Indian universities and colleges;
- to extend the benefit of consortium to associate members of the Consortium;
- 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;
- to promote increased interaction amongst the member libraries;

- to increase the research productivity of the institutions both in terms of quality and quantity of publications;
- to evaluate the usage of the resources subscribed; and
- to identify new resources that are required to be subscribed under the programme based on the availability of resources and funds.

## **7.5.2. Current Status**

The Consortium offers access to more than 5,000 peer reviewed electronic journals and nine bibliographic databases from 23 major publishers and aggregators. The access of the journals covers through current issues of the journals as well as 10 years back files (from 1997 in most cases) and from volume 1 onwards in some cases (American Chemical Society, Institute of Physics and JSTOR). The service is offered to 157 universities covered under phase I, II and III. The details of subscribed e-resources are provided in Appendix XI.

The subscription to JCCC (J-Gate Custom Content for Consortium), customised for the UGC-Infonet Digital Library Consortium was started in 2008. JCCC provides article level access to e-journals subscribed under the Consortium as well as e-resources subscribed by 20 university libraries designated as ILL Centres. It acts as a gateway to search 9300+ journals including 3100 open access journals and 5000+ journals subscribed by the consortium. The JCCC interface facilitates triggering of e-mail request for articles that are not accessible online and are available only in universities designated as ILL Centre.

During the period from April 2008 to March 2009, 820 ILL requests were generated and 657 requests were fulfilled.

### **7.5.2.1. User Awareness Programmes**

The Centre conducts user awareness programmes in universities to promote usage of e-resources. During this period under review, 18 user awareness programmes were organized at different universities as given below in Table 7.

Sl. No.	University Name	Date
1	Mohanlal Sukhadia University, Udaipur	9 <sup>th</sup> May 2008
2	Bangalore University, Bangalore	28 <sup>th</sup> -29 <sup>th</sup> April 2008
3	Lucknow University, Lucknow	16 <sup>th</sup> May 2008
4	Himachal Pradesh University, Shimla	23 <sup>rd</sup> May 2008
5	Bundelkhand University, Bundelkhand	21 <sup>st</sup> July 2008
6	Bharatidasan University, Tiruchirapalli	1-2 <sup>nd</sup> August 2008
7	Tata Institute of Social Sciences, Mumbai	11 <sup>th</sup> August 2008
8	Pondicherry University	25 <sup>th</sup> -26 <sup>th</sup> September 2008
9	University of Madras, Chennai	29 <sup>th</sup> - 30 <sup>th</sup> September 2008
10	Manipur University, Imphal	10 <sup>th</sup> October 2008
11	Jawahar Lal Nehru University, Delhi	15 <sup>th</sup> October 2008
12	University of Mysore, Mysore	21 <sup>st</sup> - 22 <sup>nd</sup> October 2008
13	Rajiv Gandhi University, Itanagar	10 <sup>th</sup> November 2008
14	GGSI Indraprastha University, New Delhi	17 <sup>th</sup> November 2008
15	Annamalai University, Annamalai	22 <sup>nd</sup> – 23 <sup>rd</sup> January 2009
16	University of Kalyani, Kalyani	2 <sup>nd</sup> – 3 <sup>rd</sup> February 2009
17	University of Calicut, Calicut	6 <sup>th</sup> March 2009
18	University of North Bengal, Jalpaigudi	25 <sup>th</sup> March 2009

**Table 7: Users Awareness Programmes on Access to E-Resources at Universities**

### 7.5.2.2. Associate Membership Programme

The Consortium has launched its Associate Membership programme with an aim to extend the access to the e-resources to universities that are not under the purview of UGC. Under this scheme, private universities and other research institutions can join the Consortium as its Associate Members and subscribe to selected resources available through the Consortium with subscription rate applicable to its core members.

### 7.5.3. Usage of E-Resources

Most publishers maintain detailed usage statistics for resources made accessible by them. The publishers provide username and password for accessing the usage statistics for their resources for monitoring purpose. Most publishers provide COUNTER compliant

usage statistics, which is an International standard for comparison of usage available 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 Resource Access Management System). Universities with low usage of e-resources are requested to optimize their usage.

The comparative usage of various resources through 2005 to 2008 is given below in Fig.24 and Table 8.

The Table 8 reflects consistent increase in usage from 2005 to 2008 for all e-resources. The average increase in usage from 2005 to 2008 is 55.74%.

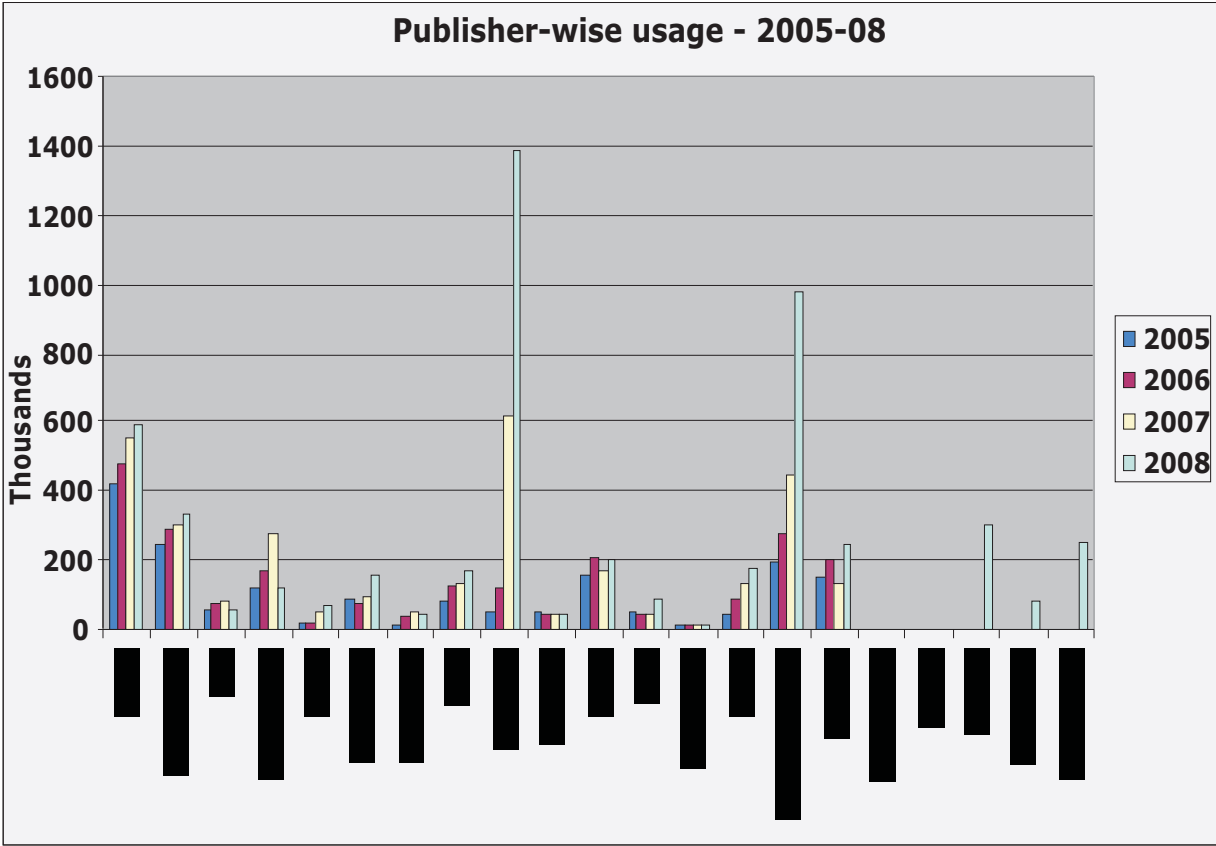


Fig. 24: Publisher-wise Usage of Resources from 2005 to 2008

Sl. No.	Publishers	2005	2006	2007	2008	Increase in 2006 (%)	Increase in 2007 (%)	Increase in 2008 (%)
1	ACS	422816	478140	560506	594960	13.08	17.23	6.15
2	AIP/APS	243856	292884	302270	336234	20.11	3.20	11.24
3	AR	56504	76492	81533	62528	35.37	6.59	-23.31
4	Blackwell	116473	174081	278690	121077	49.46	60.09	-56.55
5	CUP	21321	23388	49304	66745	9.69	110.81	35.37
6	Elsevier	89585	72964	95770	155931	-18.55	31.26	62.82
7	Emerald	18106	38995	48776	43480	115.37	25.08	-10.86
8	IOP	81071	124949	134241	168213	54.12	7.44	25.31
9	JSTOR	53924	121745	616560	1382961	125.77	406.44	124.30
10	Nature	48499	42839	42894	47996	-11.67	0.13	11.89
11	OUP	158096	205226	171952	198760	29.81	-16.21	15.59
12	PM	51709	46699	46140	89975	-9.69	-1.20	95.00
13	Portland	13301	12792	13706	13617	-3.83	7.15	-0.65
14	RSC	41786	88174	134121	178676	111.01	52.11	33.22
15	SpringerLink	190831	273319	443024	977395	43.23	62.09	120.62
16	TandF	145958	201478	134141	247849	38.04	-33.42	84.77
17	Pr. Euclid			429	551	NA	NA	28.44
18	SIAM				828	NA	NA	NA
19	JCCC				308569	NA	NA	NA
20	MathSciNet				83620	NA	NA	NA
21	SciFinder	96253	89240		253890	-7.29	NA	NA
		1850089	2363405	3154057	5333855	27.75	33.45	69.11
	<b>Average increase in download</b>							<b>62.77</b>

**Table 8: Publisher wise usage from 2005 to 2008**

\*Usage statistics for Blackwell is available upto May 2008 and for ACS and Nature upto October 2008.

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

### 7.5.4.1. Annual Increase in Rates of Subscription

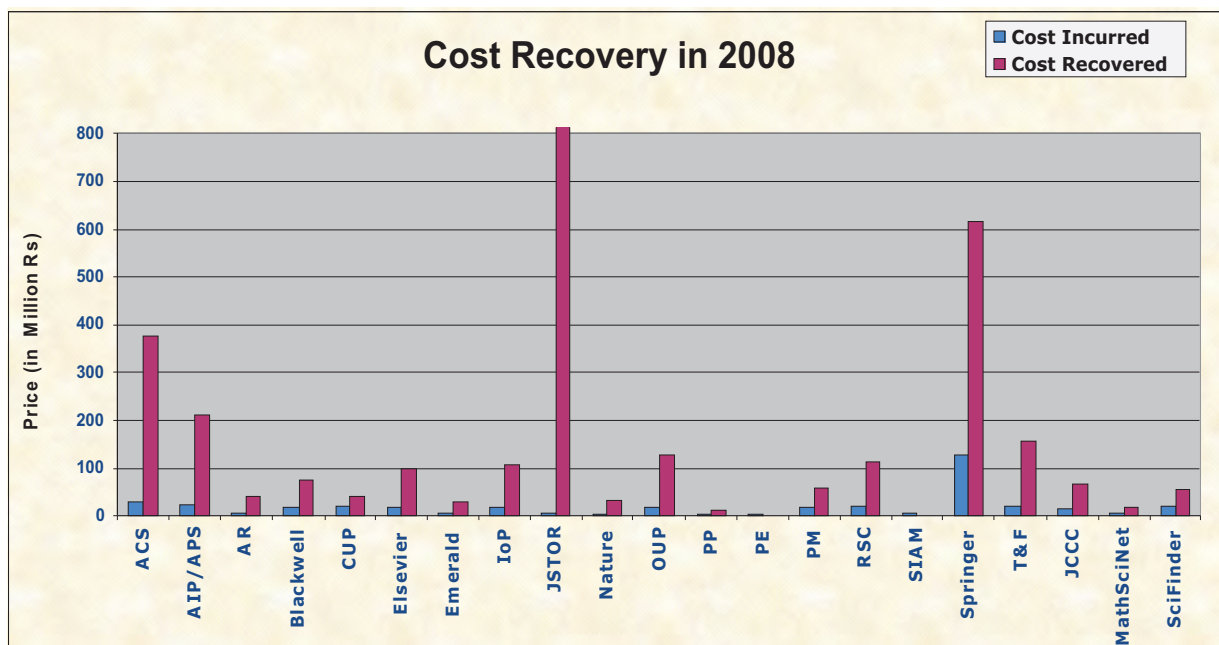
In general, there is an annual increase of 10% to 15% of subscription rate of resources. However, Consortium has negotiated the rates of increase in price of the e-resources and fixed the price cap within 4-5% annually.

### 7.5.4.2. 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.

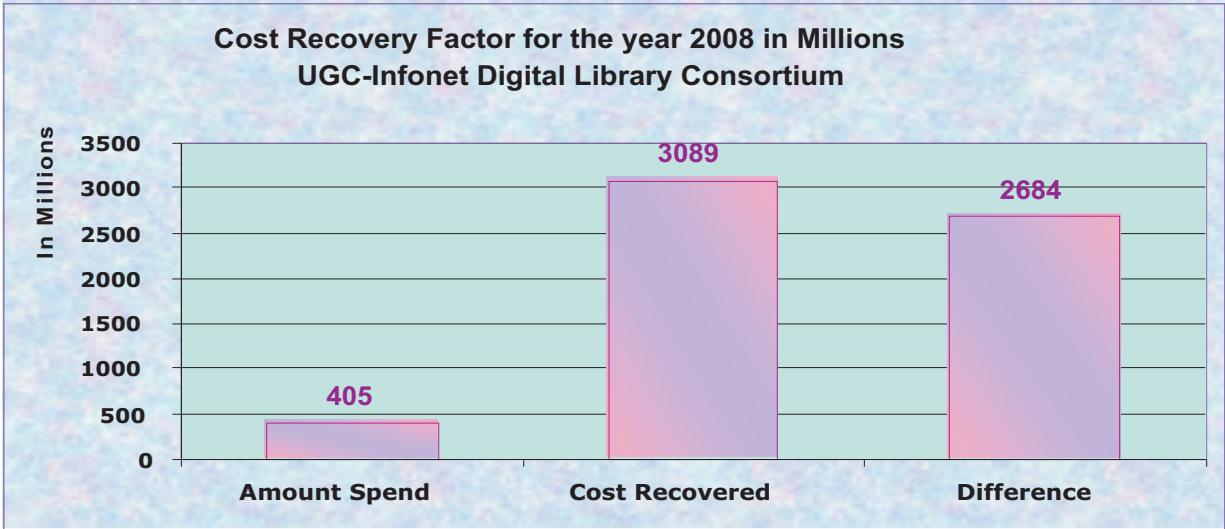
The cost recovery factor calculated by multiplying number of articles downloaded with the cost of a single article, if it is purchased directly from the publishers in the pay per view model or brought through ILL from any document delivery service. According to ALPSP survey, 78% of publishers surveyed 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 institutions 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 resource is shown in Fig. 25, which shows that the cost recovery factor for JSTOR is highest followed by Springer.



**Fig. 25: Publisher-wise Cost Recovery during 2008**

The total cost that has been recovered amounts to Rs. 308.9 crores as against the total expenditure of Rs. 40.5 crores with Rs. 268.4 crores as the cost of articles downloaded in excess.

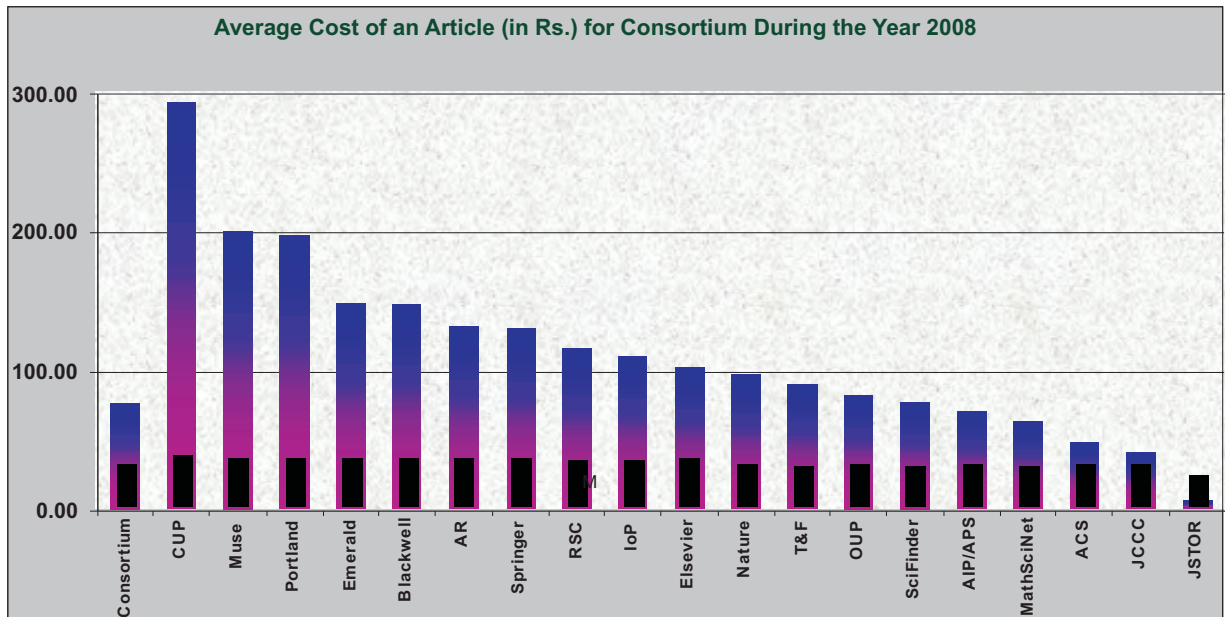


**Fig. 26: Cost recovery factor for the year 2008 in millions**

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

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

The Table 9 and Fig. 27, given below, provide the cost per download of an article. The cost per download is lowest for JSTOR (Rs. 6.16) and highest for Cambridge University Press (Rs. 292.66), whereas the Consortium average is Rs. 75.95.



**Fig. 27: Average Cost of an Article (in Rs.) for Consortium during the Year 2008**

<b>E-Resource</b>	<b>Average cost per Download (in Rs)</b>
JSTOR Archival Access	6.16
JCCC	40.44
American Chemical Society	48.59
MathSciNet (AMS)	62.61
American Institute of Physics / American Physical Society	70.69
SciFinder Scholar	77.01
Oxford University Press	82.86
Taylor & Francis	89.18
Nature	97.00
Cell Press (Elsevier)	102.55
Institute of Physics	110.72
Royal Society of Chemistry	115.53
Springer Link	129.94
Annual Reviews	132.44
Blackwell Publishing	147.83
Emerald (LIS Collection)	148.26
Portland Press	197.79
Project Muse	200.14
Cambridge University Press	292.66
Consortium Average (Approx.)	75.95

**Table 9: Publisher-wise Average Cost of an Article**

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

The walk-in-users facility of the Centre has 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 provides 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 the nearby universities and colleges. During the financial year 2008 - 2009, a total of 1619 users visited the Centre with an average of 134.9 users per month, and 6-7 users per day.



The Table 10 gives the details of usage of different e-resources by walk-in users:

Publisher	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ACS	517	281	218	1190	443	546	813	419	633	848			5908
AIP/APS	136	64	6	32	12	23	0	1	5	17	21	48	365
Annual Rev	39	21	3	7	13	2	13	37	9	19	17	28	208
CUP	51	30	5	7	13	18	18	10	12	0	38	25	229
Elsevier	25	17	17	12	47	14	20	43	39	37	62	36	369
Emerald	225	124	13	94	108	108	118	116	243	121	279	143	1692
IOP	38	22	13	25	36	8	1	7	13	22	10	52	247
JCCC	1579	3392	1793	1303	1770	9006	1259	2200	1796	1214	2249	973	28534
JSTO R	264	155	55	233	377	323	267	810	341	235	377	255	3692
MathSciNet	13	12	0	94	0	0	1	0	15	6	8	10	159
OUP	30	17	3	13	49	25	58	40	41	26	61	71	434
RSC	53	36	49	81	152	82	171	182	212	183	167	220	1588
Springer	223	441	64	235	1536	643	346	792	951	284	618	612	6745
T&F	459	102	0	0	0	0	0	18	21	5	124	27	756

**Table 10: Usage Statistics of the E-resources of Different Publishers at the Centre**

## 7.6 Human Resource Development & Consultancy

Human Resource Development Group is responsible for imparting short-term and long-term training programmes in library automation as well as in applications of new information and communication technologies in libraries. National conventions called CALIBER and PLANNER are two annual events of the Centre that are coordinated by this Group. Regional training courses and SOUL Training Programmes are amongst the most popular training programmes conducted by the Centre.

### 7.6.1. 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" practices. The participants are given facilities of a well-equipped computer laboratory with all requisite facilities. The course content of the programme is designed to cover the following topics:

- i) INFLIBNET: major activities and services
- ii) SOUL - Overview and Catalogue Module
- iii) SOUL - Acquisition Module
- iv) SOUL - Circulation Module
- v) SOUL - Serial Control Module
- vi) SOUL- OPAC, Administration and Backup
- vii) MS-SQL and SOUL Installations
- viii) SOUL Multilingual using ISM

Generally, two participants from each institution are invited to join this training programme, one each from computer and library science background. The INFLIBNET provides TA / DA to one of the participants from each institute. So far, 73 such training programmes have been organized at the Centre. During the financial year 2008-09, the following 5 training programmes (Table 11) were organized to impart training to 126 participants from different institutions. 73rd training programme was especially organized for six SOUL Coordinators with their Technical Assistants on SOUL 2.0, the new version of SOUL.

<b>Training Programme No.</b>	<b>Period of Programme</b>	<b>No of Participants</b>
69	12 <sup>th</sup> May to 16 <sup>th</sup> May 2008	31
70	23 <sup>rd</sup> June to 27 <sup>th</sup> June 2008	34
71	1 <sup>st</sup> to 5 <sup>th</sup> September 2008	19
72	17 <sup>th</sup> to 21 <sup>st</sup> November 2008	25
73	16 <sup>th</sup> to 20 <sup>th</sup> March 2009	17
	<b>Total</b>	<b>126</b>

**Table 11: Schedules of SOUL Training Programmes Organized at the INFLIBNET Centre**

### **7.6.1.1. SOUL 2.0 Testing Programme, INFLIBNET Centre, Ahmedabad, September 15-19, 2008**

The Centre has developed second version of SOUL software named SOUL2.0. The Centre invited IT and library professionals with extensive experience on different library management software as external experts for testing and enhancing the features and functionalities of the SOUL2.0. Five days intensive testing programme was organised from 15th to 19th September 2008 at the INFLIBNET Centre, Ahmedabad. Eleven library and IT professionals participated in the programme on invitation from the Centre.

## **7.6.2. Specialized Training Programme**

### **7.6.2.1. Linux and Open Source Software, INFLIBNET Centre, Ahmedabad, December 8-12, 2008**

Responding to increased influx of new information technology and its applications in libraries, the Centre conducted specialized Five Day Workshop on "Linux and Open Source Software" from 8th - 12th December 2008 at INFLIBNET Centre, Ahmedabad, as part of its HRD activity to help Library/IT professionals in exploring the feasibility of creating contents and hosting them using open source software. The Workshop provided background knowledge of the Linux and open source software and its applications. 23 Library/IT professionals participated in the programme including 10 technical staff from the Centre. The contents of the workshop were as follows: -

- Introduction to Linux and other FOSS (Free / Open Source Software)
- Linux: Installation
- Understanding the Linux File System and its Structure
- Basics of Internet and IP Structures
- Mail and Network Configuration in Linux System
- Web Server and Proxy Server Configuration
- Fire Wall Configuration
- Open Source Content Management Software
- Installation and Customization of Joomla
- Overview of ILM Software

### **7.6.2.2. Collaborative Training Programme**

A National Workshop on Developing Digital Library Using GNU EPrints was organised in collaboration with Mahatma Gandhi University Library, Kottayam (Kerala) from 16th to 20th September 2008. The Workshop provided training on installation and configuration of interoperable Institutional Repositories (IRs) at research institutes, universities, colleges and R&D organisations. With the advent of ICT, content creation and content management in electronic format are crucial components for proper development of modern libraries. Capturing, storing, indexing, preserving and redistributing digital content is a challenge for library that can be accomplished through open source IR software like EPrints. There are many software that have been developed for creating digital libraries. GNU EPrints is currently being opted by many libraries for digitizing their collection and building IRs. 30 participants from universities and colleges were trained in the Workshop.

## **7.6.3. SOUL Promotional Status**

During the period under review, the number of installation of SOUL software grew as indicated below in Table 12:

### Statewise details of SOUL Software Promoted during the year 2008-09

SI No.	State	NT Version	NT 2 <sup>nd</sup> Copy	College Version	Total
1	Gujarat	5	73	37	115
2	Maharashtra	2	16	5	23
3	Punjab	20	4	10	34
4	Andhra Pradesh	1	2	7	10
5	West Bengal	2	6	4	12
6	Others (Kerala/ Karnataka /TN/ Assam/ UP /HP/ MP/J&K/Jarkhand/CH)	4	5	16	25
<b>Total :</b>					<b>219</b>

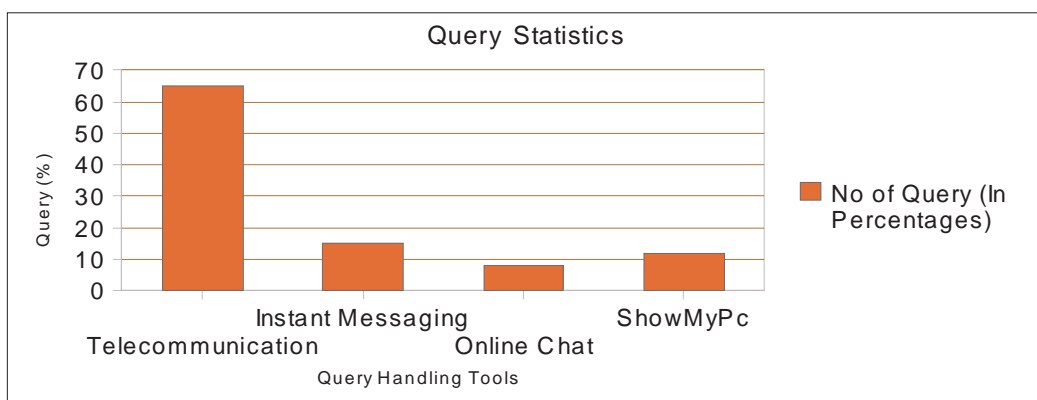
**Table 12: State-wise Number of Installation of SOUL software**

## 7.6.4. SOUL Support Services

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

### 7.6.4.1. SOUL Support Cell at INFLIBNET Centre

The SOUL Support Cell was set-up at the INFLIBNET Centre in 2007 to provide proactive support to the users of SOUL software. The Cell is equipped with qualified staff members well-versed with the SOUL software. The staff members of the cell handle queries on functional and operation problems in the SOUL software encountered by the users and provide solutions to it on telephone, SMS and fax. The Cell has a dedicated telephone line for handling queries from the users. However, the website of the Centre is equipped with chat services that facilitates users to chat with staff in the Centre regarding their problems in the software. "ShowMyPC", a software that allows sharing of PCs of the users, is also used to help users in the process of installation of SOUL software. Fig. 28 shows queries handled by the SOUL Support Cell using various communication media.



**Fig. 28: Query statistics of SOUL Users**

## 7.6.4.2. SOUL Regional Coordinators

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:

Name	Address/Phone No. / Email/ State
<b>Prof. C. P. Vashishth</b> (For Delhi, Uttaranchal & UP)	28-B, Pocket 'A' MIG Flat Ashok Vihar, Phas III Delhi – 110 052  Ph. No. : 011-25774507 (O) 011-27112721 (R)  Email : <a href="mailto:cpv_36@yahoo.co.in">cpv_36@yahoo.co.in</a>
<b>Sh. K. Ravindran Asari</b> (For Kerala & Tamil Nadu)	TC 54/2125 (7) Mangarath Gardens (MGRA-36) Pappanamcode Trivandrum – 696 018, Kerala  Ph. No. : 094472 90602 (M) Email: <a href="mailto:krasari@rediffmail.com">krasari@rediffmail.com</a> ; <a href="mailto:kasari@gmail.com">kasari@gmail.com</a>
<b>Sh. Ashok S. Sonone</b> <b>New Appointed on 18.08.2008</b>  (for Maharashtra & Goa)	Librarian Sitabai Arts College Civil Line Akola – 444 004, Maharashtra  Mob.: 094217 55869 Email: <a href="mailto:asonone67@gmail.com">asonone67@gmail.com</a>
<b>Sh. Rakesh Kumar Khare</b> (For Madhya Pradesh & Chhattisgarh)	Office Add. Govt. M.L.B. Girls PG (Auto) College Bhopal, Madhya Pradesh  Res. Add. : F-8/20, Char Imli Bhopal – 462 016, Madhya Pradesh  Mob. : 099265 35452 Email: <a href="mailto:orakesh16@yahoo.co.in">orakesh16@yahoo.co.in</a>
<b>Sh. J. Laxma Reddy</b> (for A.P., Karnataka & Puducherry)	Lecturer in Library Science Nagarjuna Government College (A) Nalagonda – 508 001, Andhra Pradesh  Ph. No. : 099081 15333 Email: <a href="mailto:cliengc@gmail.com">cliengc@gmail.com</a>
<b>Smt. Nalini A Raja</b> (for Maharashtra & Goa)	302, Hari-Kripa, L.T.Road, Borivli (W) Mumbai: 400 092 Maharashtra State

## 7.7. Open Source Software R&D Group

The Free Open Source Software (FOSS) has proved to be a boom for the developing countries. The FOSS is being used extensively to reduce digital divide. The Open Source Software Movement (The OSS Movement) aims to promote FOSS to build a sustainable software development framework within and between the nations through diverse activities. The INFLIBNET Centre is committed to give momentum to FOSS movement in the Indian library and academic community with the demonstration of practical advantages and power of FOSS. Open Source Software R&D Group was setup in April 2008 with the objectives mentioned below:

- to test and experiment with various Open Source Software, especially in the field of LIS;
- to impart training on the Open Source Software;
- to explore and experiment with Open Source Library Management system;
- to explore and experiment with different Open Source DBMS software for various activities at the INFLIBNET Centre;
- to contribute proactively to the Open Source Software movement;
- to train manpower for implementation of Open Source Software in universities and academic institutions;
- to provide help and support to universities in implementing Open Source Software;
- to spread the philosophy of FOSS and increase its effective usage;
- to build up capacity amongst library and academic communities and other organizations;
- to fabricate a participatory information technology development system with collaboration from different organization involved in OSS R & D;
- to set-up an Open Source Software Learning Centre so as to ensure availability and accessibility of LIS related FOSS;
- to provide online and onsite support for FOSS;
- to formulate migration plan and advocacy for adoption of FOSS;
- to localize and translate Open Source Software, Open Content as per the demand of the academic community; and
- to organize events to enhance the opportunities of skill sharing.

The Centre took a cautious decision to move all its critical operations from commercial software to open source software. As a first step in this direction, Open Office was implemented in place of Microsoft Office in the Centre during the period under review. Further, an Open Source Laboratory was separately set-up at the Centre with PCs loaded with different versions of LINUX Operating System which include Redhat, Fedora, Ubuntu etc and LMS Software like NewGenLib and Koha were installed on these machines. Digital Library software like DSpace and EPrint Archives are also installed for testing and development. All the union databases of the INFLIBNET Centre that were earlier hosted on MS-SQL are being moved to MySQL, an open source software. All the websites of the INFLIBNET Centre including its main website, Consortium website, INFONET site, SOUL, Union Database are designed using open source software solutions including Apache, MySQL, Tomcat, PHP, Java Script, PERL, etc.

The Centre has entered the world of Web 2.0 and Library 2.0 by installing open source software that facilitates interaction, collaboration and cooperation between the INFLIBNET Centre and its users. The INFLIBNET's Web site offer RSS Aggregation services (<http://www.inflibnet.ac.in/feed/>) which is set-up using PHP and MySQL for all the electronic journals subscribed under the UGC-INFONET Digital Library Consortium. The Centre uses MailMan (<http://www.inflibnet.ac.in/mailman/listinfo>) for managing its mailing list. The Centre maintains its own blog that is set-up using WordPress (<http://www.inflibnet.ac.in/blog/>). The INFLIBNET's Wiki (<http://www.inflibnet.ac.in/wiki/>) is set-up using MediaWiki. The Bulletin Board (<http://www.inflibnet.ac.in/forum/>) is hosted on the INFLIBNET's site that is set-up using PHPBB. The Centre uses Online Chat (<http://www.inflibnet.ac.in/chat/>) for extending support to the SOUL users and to encourage interaction amongst INFLIBNET scientists and users. The Online Chat service was enabled through the INFLIBNET site using PhPChat. The Institution Repository, set-up by the Centre using Dspace, an open source software, was populated with all the papers published in PLANNER, CALIBER and other publications. Open Journal System, an open source software, that facilitate all activities related to publication of journals in open access, was installed on the server in the Centre with an aim to promote publication of journals in open access by academic community in universities and colleges.

The theme of PLANNER 2008, annual convention organized by the INFLIBNET Centre, at Nagaland University, Dimapur, was on Open Source, Open Access and Open Library. The staff members of the Centre made presentations on the use of open source software at the Convention during PLANNER 2008. The Centre also organized a workshop on Linux and Open Source Software in December, 2008. Besides, a team consisting of Scientists from the INFLIBNET Centre visited Open Source Software Resource Centre at CDAC, Mumbai to study the work done by CDAC and to explore the possibility of collaboration between CDAC and INFLIBNET Centre. The Group also developed tools

for data conversion based on open source and contributed to [www.sourceforge.net](http://www.sourceforge.net) for further development.

## **7.8. E-Resources Access Management Group**

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 Software R & D Group of the Centre is exploring different tools and technologies to optimize the utilization of e-resources so as to ensure better returns of investment and greater benefit to the academic community. At present the access to e-resources in universities is IP-enabled and, as such, access is restricted within the confine of a given university campus. The Centre is exploring tools and technologies that would enable authorized users to access e-resources regardless of their physical location. In other words, using appropriate access management tools, a user would be able to access e-resources from his / her campus, home or 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 INFLIBNET Centre, as a coordinating agency for the UGC-Infonet Digital Library Consortium, is working towards providing seamless access to e-resources to the academic community without barriers of physical location using various open source and priced access management technologies. The Centre has already implemented EZproxy for its scientists and staff. EZproxy facilitates users to log-in from a remote location and access Web-based licensed content subscribed by an institution. EZproxy is a middleware that authenticates library users using local authentication system and provides seamless access to licensed content to a user based on his authorization. EZproxy from OCLC is easy to setup and maintain.

Currently, a dedicated team of scientists are working on a middleware open source technology called "Shibboleth". Shibboleth is a standard-based open source software solution that facilitates single sign-on across subscribed web-based content within an organizational boundary. It allows sites to make informed authorization decisions for individual access of protected online resources in a privacy-preserving manner. Using this technology, user can access designated electronic resources within institute as well as off campus.

The Shibboleth software implements widely used federated identity standards, principally OASIS' Security Assertion Markup Language (SAML), to provide a federated single sign-on and attribute exchange framework. Shibboleth also provides extended privacy functionality allowing the user 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 and is freely available.

In addition to providing single sign-on functionality, Shibboleth can help control access to either campus-based or licensed resources. Working with identity management systems, Shibboleth releases the information for which service partners need to authorize actions or customize the user's experience. This reduces the need for developers to have access to the directory and instead provides fresh data, just-in-time. This can be implemented on- and off-site.

Presently Centre has implemented "Shibboleth" identity provider services on experimental basis. Preliminary test was successful and satisfactory. Practical implementation of Shibboleth based authentication will be done in collaboration with publisher and academic stakeholders.

## **7.9. Bibliographic Standards, Formats and Protocols**

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.

Uniform standards and protocols are pre-requisite for data transfer, exchange and interoperability. It facilitates merging of records in union catalogues as well as in creation and maintenance of its quality. The development and maintenance of union catalogues is one of the key activities of the Centre. According to the directives from the MHRD and recommendation of Expert Committee appointed by the Centre, related fields from MARC21 bibliographic format were identified for creation of union database at the Centre. The committee also recommended use of MARC21 in university and college libraries. Besides, it was also recommended to make SOUL software compliant to MARC21 bibliographic format. Accordingly, each participating library advised to use MARC21 bibliographic format for creation of bibliographic records using their library automation software. The Centre has developed adequate expertise in MARC21, its usage and implementation. The Catalogue Module of the new version of SOUL software (SOUL2.0) is fully compliant to MARC21 and Unicode; the Circulation Module is fully compliant to SIP2.0 and NCIP2.0 protocols for RFID based circulation and security. The software provides interface for importing MARC21 records from external sources like LOC, OCLC, British Library and records provided by publishers for electronic books. The export / import interface of the software has been thoroughly tested by the staff of the

Centre as well as by the users since the catalogue module of the software is available free-of-cost in open access. Moreover, the INFLIBNET's union catalogue of books also facilitates exporting bibliographic records in MARC21 format. These standards are available on the INFLIBNET website at <http://www.inflibnet.ac.in/publication/> for downloading. Some of the guidelines prepared by the Centre such "Guidelines for Data Capturing: A User Manual" and "SOUL Guidelines for Data Capturing: A User's Guide" are also available for download. The 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 - <http://www.niso.org>) as its 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. The INFLIBNET is one of the organizations, approved by the NISO Board of Directors, as a Voting Member. The NISO is also closely associated with the Technical Committee (TC) 46 of the International Organization for Standardization (ISO). 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 also associated with the Technical Committee MSD5 on Documentation and Management of Bureau of Indian Standards (BIS), New Delhi (<http://www.bis.org.in>) at the national level. Following standards were reviewed, revised and balloted accordingly during the period under report:

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

MSD 5(360) Information and Documentation - International Standard Serial Number (ISSN) (Second Revision of IS 10101)

MSD 5(361) Microfilming of technical drawings and other drawing office documents - Part 1: Operating procedures [First revision of IS 12879 (Part 1)]

## 7.9.2. Revised Indian Standards

MSD 4 (332) Glossary of Terms in Knowledge Management

## 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 / formulation of the following standards under different groups formed for during the period under review:

- ANSI/NISO/ISO 12083 - 1995 (R2002): Electronic Manuscript Preparation and Markup [This is an adoption of the ISO standard.]
- ANSI/NISO Z39.14 - 1997 (R2002): Guidelines for Abstracts
- ANSI/NISO Z39.23 - 1997 (R2002): Standard Technical Report Number Format and Creation
- ANSI/NISO Z39.26 - 1997 (R2002): Micropublishing Product Information
- ANSI/NISO Z39.32 - 1996 (R2002): Information on Microfiche Headers
- ANSI/NISO Z39.48 - 1992 (R2002): Permanence of Paper for Publications and Documents in Libraries and Archives
- ANSI/NISO Z39.56 - 1996 (R2002): Serial Item and Contribution Identifier (SICI)
- ANSI/NISO Z39.62 - 2000: Eye-legible Information on Microfilm Leaders and Trailers and on Containers of Processed Microfilm on Open Reels
- ANSI/NISO Z39.73 - 1994 (R2001): Single-Tier Steel Bracket Library Shelving
- ANSI/NSIO Z39.41 - 1997 (R2002): Printed Information on Spines
- ANSI/NISO Z39.2 - 1994 (R2001): Information Interchange Format
- ANSI/NISO Z39.47 - 1993 (R2003): Extended Latin Alphabet Coded Character Set for Bibliographic Use (ANSEL)

- ANSI/NISO Z39.50 - 2003: Information Retrieval: Application Service Definition & Protocol Specification
- ANSI/NISO Z39.74 - 1996 (R2002): Guides to Accompany Microform Sets
- ANSI/NISO Z39.89:2003: The U.S. National Z39.50 Profile for Library Applications
- ANSI/NISO Z39.53-2001: Codes for the Representation of Languages for Information Interchange
- ANSI/NISO Z39.64-1989 (R2002): East Asian Character Code for Bibliographic Use
- ANSI/NISO Z39.77-2000: Guidelines for Information About Preservation Products
- ANSI/NISO Z39.79-2001: Environmental Conditions for Exhibiting Library and Archival Materials
- ANSI/NISO Z39.82-2001: Title Pages for Conference Publications
- ANSI/NISO Z39.9-1992 (R2001): International Standard Serial Numbering (ISSN)
- ANSI/NISO Z39.76-1996 (R2002): Data Elements for Binding Library Materials
- ANSI/NISO Z39.20-1999: Criteria for Price Indexes for Print Library Materials
- ANSI/NISO Z39.18-2005: Scientific and Technical Reports - Preparation, Presentation and Preservation
- ANSI/NISO Z39.19-2005: Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies
- ANSI/NISO Z39.29-2005: Bibliographic References
- ANSI/NISO Z39.84-2005: Syntax for the Digital Object Identifier
- ANSI/NISO Z39.88-2004: The OpenURL Framework for Context-Sensitive Services
- ANSI/NISO Z39.83-200x: NISO Circulation Interchange Protocol (NCIP) - "NCIP Revision - Z39.83 Parts 1 and 2"

- ANSI/NISO Z39.86: Specification for the Digital Talking Book
- ANSI/NISO Z39.89-2003: The US National Z39.50 Profile for Library Applications
- Voted for "Proposed New Work Item: Single Sign-On (SSO) Authentication"

On the request of the International Engineering Task Force (IETF) to the ANSI, the Centre voted with NISO for to be a "Category A Liaison" with ISO/TC46, Information and Document. The NISO is a TC46 Technical Advisory Group of ISO. Category A Liaison is defined as "Organizations that make an effective contribution to the work of the technical committee or subcommittee for questions dealt by this technical committee or subcommittee. Such organizations are sent copies of all relevant documentation and are invited to meetings. They may nominate experts to participate in a Working Group." Whereas IETF is a large open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet.

## 8. Conventions

The Centre organizes two major annual conventions every year namely International CALIBER and PLANNER. During the year under report, 6th PLANNER and 16th CALIBER were organized at Nagaland University, Dimapur and Pondicherry University, Puducherry during November 2008 and February 2009, respectively. Besides, a National Seminar on Open Access to Textual and Multimedia Content: Bridging the Digital Divide was organized in collaboration with CEC, New Delhi during January 2009. A brief write-up on these three events are given below:

### 8.1. 6th PLANNER 2008, November 6-7, 2008, Dimapur, Nagaland

6th PLANNER (Promotion of Library Automation and Networking in North-Eastern Region) was organised by the INFLIBNET Centre, Ahmedabad in collaboration with Nagaland University on 6th to 7th November 2008 at SETAM, Dimapur, Nagaland. The theme of the convention was "Open Access, Open Source and Open Libraries (O3)". The convention was attended by more than 300 delegates including four delegates from Bangladesh.

The Convention was inaugurated by Prof. K Kannan, Vice Chancellor of Nagaland University on 6th November 2008. Shri. Manoj Kumar K., Convener of the Convention from the INFLIBNET Centre welcomed the delegates and dignitaries. Dr. Jagdish Arora, Director INFLIBNET presented an overview of activities, services and functions of the INFLIBNET Centre and its future plan for North Eastern region. He also brought the attention of the participants to the initiatives of INFLIBNET in promoting open access in

LIS related activities, database management, building of a union catalogue of library resources ('IndCat') of 142 university libraries in India and its growth to more than one crore of bibliographic records. Dr. Arora highlighted the fact that SOUL software has more than 1650 installations including 103 installations in North East region. He informed to the delegates that the catalogue version of SOUL 2.0 was demonstrated during CALIBER 2008 at Allahabad University, Allahabad on 28th February 2008 and announced that the full version of SOUL 2.0 will be released during first quarter of 2009. The Convention Proceedings was released by Prof. Kannan and the CD of the Convention Proceedings was released by Shri. M. Moni, Member, Governing Board, INFLIBNET and Deputy Director General, NIC, New Delhi. Dr. Jagdish Arora released the Souvenir of the Convention.



**Fig. 29: Prof. K Kannan, VC, Nagaland University releasing the Proceedings of the Convention**

Prof. Kannan, while inaugurating the Convention read out the message sent by his Excellency, the Governor of Nagaland, Sh Shankaranarayanan, Hon'ble Governor appreciated the services and activities of the INFLIBNET Centre and welcomed the organisation of PLANNER 2008 in Nagaland and urged the delegates and professionals to take maximum benefits from it. Prof. Kannan in his inaugural speech compared library with many other public sectors of the current scenario especially with the mall culture being developed in the society where customers are becoming choosy day-by-day during his address on 'Should the Library be like a mall?'. He briefed about the initiatives of the Nagaland University in establishing e-learning facility with 1400 hours of recorded video lectures by eminent academicians funded by the MHRD under NPTEL (National

Programme of Technology Enhanced Learning) programme. The video lectures cover over 20 courses and are available as Video-On-Demand service over the network.

Shri. M. Moni, in his keynote address, emphasized the need to synergise the disciplines of LIS and computer science for evolving new discipline called "Digital Library Science" and cross fertilization of disciplines for return of investment in terms of people, knowledge and process. Dr. T. Temjen, Organizing Secretary of the Convention expressed a warm vote of thanks. Dr. S. Venkadesan, Librarian, IISc, Bangalore was Director of the Convention and Dr. R. Samyuktha, Librarian, Pondicherry University, Puducherry was Rapporteur General of the Convention.



**Fig. 30: Delegates of the PLANNER 2008**

Of 44 papers published in the proceedings, 20 papers were presented during the convention in five sessions including panel discussion as mentioned below in Table 13:

Session	Theme of the Session	Chairman of the Session	Co-Chairman of the Session
Session 1	Open Access	Dr. Prabhakar Rath	Sh. M Maltesh
Session 2	Open Source	Dr. V D Srivastava	Dr. Moses M Naga
Session 3	Open Libraries	Dr. P V Konnur	Sh. Prem Chand
Session 4	Consortium and Digital Library	Prof. Narendra Lahkar	Dr. Rajeev Vij
Session 5	Panel Discussion	Dr. Jagdish Arora, Dr. S Venkadesan, Dr. P V Konnur, Dr. Narendra Lahkar, Dr. I Majaw and Dr. Khomdon Singh	

**Table 13: Number of Technical Sessions with their Theme**

The following experts in the field of LIS were invited to present theme papers in each of the four sessions mentioned above:

Theme paper - 1 - Open Access and Scholarly Publishing, by Dr. Jagdish Arora

Theme paper - 2 - Open Library, by Dr. S Venkadesan

Theme paper - 3 - Open Source - Philosophy of freedom and sharing for open models,  
by Sh. Manoj Kumar K

Theme paper - 4 - Access to E-journals through UGC-Infonet Digital Library  
Consortium: Study of Usage Trends among the Universities of North  
East India, by Sh. Prem Chand

The Major recommendations of the Conventions were as follows:

- i) Promote use of open source software in libraries of North East Region with INFLIBNET Centre to play a key role in this process;
- ii) Promote usage of e-resources of the UGC-Infonet Digital Library Consortium and organize more awareness programme on e-resources in the region;
- iii) Promote setting up of IR and OA journals in universities in north-east region;
- iv) The INFLIBNET Centre may play the role of a catalyst for evolving policies to promote OA and IRs; and
- v) Promote creation of ICT infrastructure for effective use of electronic resources made available through the INFLIBNET Centre.

The Valedictory Session on 7<sup>th</sup> Nov 2008 commenced with welcome address by Organising Secretary, Dr Temjen and feedback from the delegates. Dr. Chandan Rajkhowa, Director, National Research Centre on Mithun (ICAR), Jharnapani, Nagaland was the Chief Guest of the Valedictory Session. In his concluding remarks, he recalled the impact of acquaintance with his Librarians in early days of his education and research. He suggested that the INFLIBNET should build a repository of educational and research material to help the North East region in optimal utilization of resources. Village Resource Centres can be linked to these institutions to pass on information to the villagers in terms of agriculture etc. Director of UGC, Bangladesh also shared his experience in handling the digital library projects in Bangladesh. Session concluded with distribution of certificates and a warm vote of thanks by Sh. Manoj Kumar K, Convener of the Convention.



## 8.2. International CALIBER 2009, February 25-27, 2009, Pondicherry University, Puducherry

The 7th International CALIBER 2009 was organized by the Centre at the Pondicherry University, Puducherry during 25-27 February 2009 on the theme “e-Content Management: Challenges and Strategies” in collaboration with Pondicherry University. The theme of the convention was divided into different subthemes i.e. e-content management, e-resources, Web 2.0, Library 2.0, content aggregation and application of ICT in libraries. The convention was attended by 275 delegates including 36 students, 20 major publishers, aggregators and IT companies and 7 foreign delegates.

Three tutorials were organised for the benefits of delegates. The tutorial on Web Content Management was delivered by Dr. M G Sreekumar, Librarian, IIM, Kozhikode. Tutorial on Access Management was delivered by Mr. John Paschoud from London School of Economics, UK and Overview on SOUL 2.0 was presented by Mr. Yatrik Patel, Scientist C (CS), INFLIBNET Centre, Ahmedabad on 25<sup>th</sup> February 2009, the first day of the convention. Total 70 delegates attended the tutorials. Mr. Manoj Kumar K, Scientist D (CS), INFLIBNET Centre, Ahmedabad chaired the tutorials.

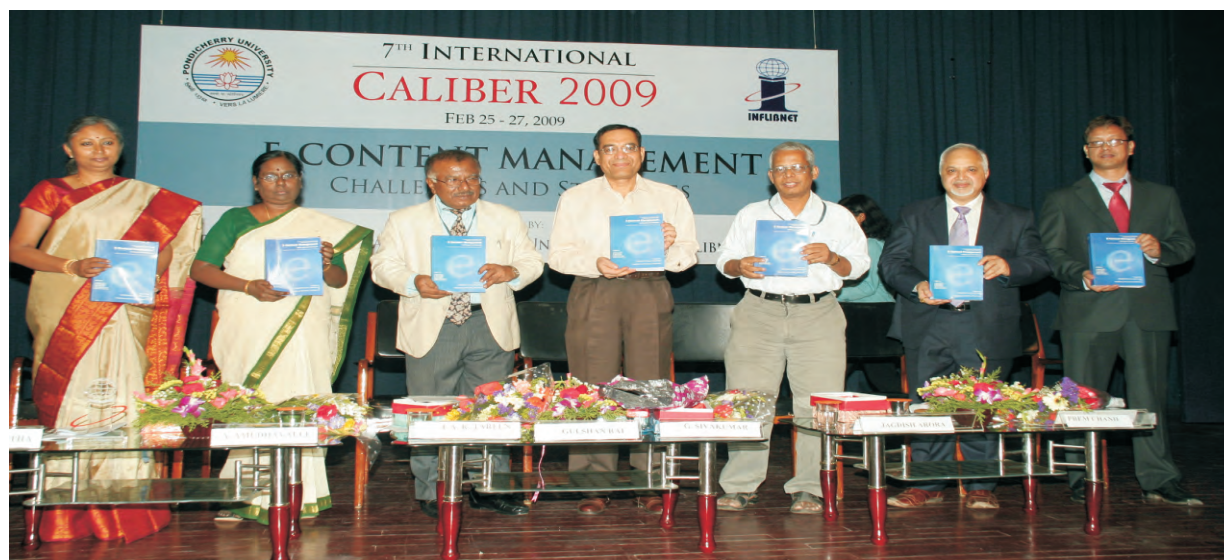


**Fig. 31: Prof. J A K Tareen, VC, Pondicherry University, Puducherry lighting the Traditional Lamp. Dr. Gulashan Rai, Dr. Jagdish Arora, Prof. G Sivakumar, Dr. Samyuktha Ravi and Sh. Prem Chand also seen in the picture.**

## 8.2.1. Inauguration

The convention was inaugurated by Dr. Gulshan Rai, Director General, CERT-In, Ministry of Communication & Information Technology, Govt of India on 25th February 2009 at the University Convention Centre, Puducherry. Padmashree Prof. J.A.K Tareen, Vice Chancellor, Pondicherry University presided over the function. Dr. Samyuktha Ravi, Librarian, Pondicherry University and the Organizing Secretary of CALIBER 2009 welcomed the invitees and delegates. Prof. A. Amudhavalli, Head, Department of Information Sciences, University of Madras and Convention Director congratulated the Pondicherry University for hosting the convention and explained the importance and need of discussing various issues on digitization in the present context for evolving suitable strategies.

Dr. Jagdish Arora, Director, INFLIBNET Centre, deliberated on the objectives of the INFLIBNET Centre and the initiatives taken for modernising the university libraries through library automation and software development. He spoke about the growth in research output of many universities and introduced the UGC-Infonet Digital Library Consortium. Prof. J.A.K. Tareen, in his presidential address, stated that without books and good reading habits, the nation cannot aspire to become a knowledge society. He expressed that libraries should motivate and attract users by implementing innovative services in a holistic approach and stressed upon the need for implementing modern technologies in libraries for the benefit of all its users. The Proceedings of the convention was released by Prof. Gulshan Rai which contained 70 papers, 3 theme papers and 110 abstracts submitted by the authors and invited speakers.



**Fig. 32: Dignitaries on the dais with the Convention Proceedings of the International CALIBER 2009**

Prof. G. Sivakumar, Head, Department of Computer Science, IIT Bombay delivered the keynote address on usefulness of Web 2.0 and Library 2.0. He was of the opinion that these new tools of social networking are collaborative in nature and are very essential to enable libraries to move into the next generation.

Dr. Gulshan Rai, Director General, CERT-In, in his inaugural address, briefed the history of ERNET and INFLIBNET Centre in terms of technological developments that took place since inception of the UGC-Infonet. He also pointed out the negative part of technological development such as computer viruses and spyware intruding into the privacy of individuals and destroying their data. Dr. Rai cautioned the librarians about the security threats of the unsecured network on Internet. Shri. Prem Chand, Scientist D, INFLIBNET Centre and Convener of International CALIBER 2009 proposed a warm vote of thanks. A cultural programme was organized later in the evening by the University.

The convention was divided into 5 technical sessions including two parallel sessions as mentioned in Table 14. Of 73 papers accepted for presentations, 36 papers were presented during five technical sessions.

Technical Session	Theme of the Session	Chairperson	Rapporteurs	No. of Papers	No. of Papers Presented
Session 1	Digital Preservation and Digital Persistence	Dr. Ishwar Bhatt	Dr. V Chandra Kumar	17	8
Session 2 (Parallel)	Web Content Management	Dr. T R Kem	Ms. Jayaja Krishnan	10	4
Session 2 (Parallel)	Web Content Management	Mr Allan Hopkins on	Dr. T Temjen	7	4
Session 3	Web 2.0 and Library 2.0	Dr. Bavakutti	Ms. Jyoti Bhatt	15	4
Session 4	E-Publishing	Dr. S K Patil	Mr. H G Hosamani and Ms. Nalini Raja	24	16
<b>Total</b>				<b>73</b>	<b>36</b>

**Table 14: Number of Technical Sessions with their Themes and No. of Papers Presented and Chairperson of the Sessions**

## 8.2.2. Panel Discussion

A panel discussion was organized as part of the concluding session. Prof. Ajit Kembhavi, Dean, Visitor – Academic Programmes, IUCAA, Pune and Chairman, National Steering

Committee, UGC-Infonet Digital Library Consortium moderated the discussions. Panelists were Prof. Ashok Raina, Dr. Dinesh Gupta, Dr. Jagtar Singh, Dr. R Gaddagimath, Dr. Pawan Kumar Gupta and Dr. Usha Munshi.

In the discussion, Dr. Usha Munshi highlighted the evaluation features and functions of Web. 2.0. Dr. Gaddagimath shared his view on scholarly communication, open access and e-publishing in academic institutions. He also stated that the technology has changed the channels of scholarly communications in the academic world. He expressed that training on use of scholarly content should be provided based on user's requirement. Dr. Jagtar Singh touched upon the issues pertaining to preservation and felt that the library needs to change the policies for sustenance. Dr. Dinesh Gupta discussed the need for preserving information for the future generation in digital format. Dr. Pawan Kumar Gupta shared his view on rights of people and libraries. Panel discussion was followed with lively discussions and interesting questions from the delegates.



**Fig. 33: Delegates of the International CALIBER 2009**

### **8.2.3. Recommendation**

The following major recommendations were made during the convention:

- i) Creation of e-content and its availability to the user community is an important activity for academic institutions. Therefore, efforts are required for creating interoperable digital repositories;

- ii) Many academic institutions are generating textual and multimedia content in analogue format. Efforts should be made for converting analogue content into e-content;
- iii) Universities and institutions should ensure increase in Internet bandwidth for optimum use of e-resources;
- iv) Due to high rates of techno-obsolescence, migration of digital content, advancement in hardware technology, and migration of platform of the software are necessary steps. Library should therefore, consider these aspects at the time of undertaking the digital library projects;
- v) The country should have an Indian National Digital Preservation Policy. A Committee should be formed by the Ministry of Communication and Information Technology to prepare a white paper on the subject and draw implementation strategies for the benefit of various stakeholders;
- vi) Ministry of Culture should amend the existing Delivery of Books Act to incorporate delivery of digital publications;
- vii) Awareness on IPR (Intellectual Property Rights) laws and policies should be imparted to the library and information professionals. Utmost efforts should be made in maintaining the IPR laws and policies; violation of IPR laws should be avoided. It was recommended that library schools should include IPR laws and policies in LIS curriculum;
- viii) For wider visibility and access of rare and important documents in libraries, it was suggested that the copyright laws of India may be amended enabling digitization of documents by the libraries;
- ix) The content creation skills of library professionals should be strengthened. The libraries should proactively capture “born digital” content such as Ph.D. thesis, M.Phil./M.Tech dissertations, progress and technical reports, etc. for strengthening the library digital collections; and
- x) A Nodal Agency should be set-up to look into the formation of guidelines on standards and formats so as to develop collaborative digital library by appointing appropriate committees for interoperability of digital objects.

#### **8.2.4. Valedictory Function**

The valedictory function was presided over by Prof. A. Balasubramanian, Director,

Department of Culture and Cultural Relation, Pondicherry University. In his valedictory address, he talked about “E-content: Digital Information Packets” and narrated the technological advances taking place in the information and communication technologies having direct bearing on the library professionals. He advised the LIS community for taking advantage of this situation and leading the library for future.

### **8.3. National Seminar on Open Access to Textual and Multimedia Content, January 29-30, 2009, New Delhi**

The National Seminar focused on open access of textual and multimedia content with possibilities of collaboration between two Inter-university Centres of the University Grants Commission (UGC), namely the INFLIBNET Centre, Ahmedabad and the Consortium for Educational Communication (CEC), New Delhi. The Seminar was organised at the India Habitat Centre, New Delhi from 29<sup>th</sup> to 30<sup>th</sup> January 2009. Prof Syed Iqbal Husnain, Chairman, Governing Board, CEC, welcomed the guests, participants and invitees to the inaugural session and of the Seminar. In his welcome address, Prof Husnain stressed upon the need for extending higher education to the remote and far-flung areas of the country. Dr T R Kem, Director, CEC, in his address, highlighted the functions and activities of the CEC. He narrated the growth and development of the CEC in retrospect. In his address, Dr Kem pointed out the fact that there is far less enrolment in higher education in India as compared to the developed nations. He emphasised that there is a need to use of modern information and communication technology for delivery of educational content so as to empower citizens of the country with power of knowledge. Prof S K Khanna, Chairman, Governing Board, INFLIBNET Centre, highlighted the activities, functions and services of the INFLIBNET Centre to academic community. He recalled the contributions made by Dr. Madhuri Ben Shah, Prof. Rais Ahmed, Prof. Yash Pal and Dr. Kiran Karnik, as senior functionaries of the UGC in the growth and development of higher education in the country. He recalled the initiatives taken by Prof. Yash Pal that lead to the setting of Inter-University Centres of the UGC including INFLIBNET. He assured the audience that INFLIBNET would come up to the expectations of academic community with new services and initiatives. He also highlighted the recent developments at INFLIBNET, in particular, the planning and design of new building, at Gandhinagar and the UGC- INFONET Digital Library Consortium.

The Seminar was inaugurated by Prof. Yash Pal, National Research Professor and former Chairman, UGC. Prof. Yash Pal, in his inaugural speech, focused on the need to give a fresh look to the curriculum development activities, with an aim to develop quality education and promote creativity amongst students especially those residing in rural and remote parts of the country. He emphasized on the need to impart knowledge that has tangible applications and for multi-disciplinary research on self-learning skills for learners. He noted that the INFLIBNET and CEC can have a greater influence by applying technology to connect people, information, knowledge, ideas and wisdom.

Prof. Sukhadeo Thorat, Chairman of UGC, in his presidential remarks, expressed his idea on synergy between the services and activities of the two organizations i.e. INFLIBNET Centre and CEC. Prof. Thorat emphasized the need of the country to take quantum leaps to expand higher education in India and increase student enrollment to 15% with a special emphasis on communities that are traditionally under represented such as women, poor, minorities, and those in rural parts of the country.

Dr Jagdish Arora, Director, INFLIBNET Centre, in his address to the delegates, introduced the theme of the Seminar. Dr Arora explained the context and expectations from the Seminar. Talking about the availability of the modern information and communication technology, he laid emphasis on its effective utilisation for higher education in generating e-content as well as preparation of effective delivery and access mechanism for various media of information. Dr Arora also gave a brief account of the recent activities of the INFLIBNET Centre.

Mr. Kiran Karnik, Former President, NASSCOM, talked about a number of factors that divide the country including geographical, occupational, rich v/s poor, rural v/s urban, and information access. He advised the delegates to focus on bridging the digital divide. Mr. Karnik highlighted the role of ICT as a tool that removes several divides, i.e. space and time, geographical boundaries, rural and urban, and information access. He noted that ICT removes isolation by connecting researchers with various web communities, help set-up virtual research laboratories with real-time high speed connectivity and brings about equal access to information and research.



**Fig.34: Inaugural Session of National Seminar on Open Access to Textual and Multimedia Content held at India Habitat Centre, New Delhi, 29-30 January 2009**

The seminar consisted of a panel discussion on “Digital Divide: Role of Virtual University”, six technical sessions with two invited presentations in each session, and meetings of the three parallel working groups. The titles of the technical sessions were as follows:

- i) Multimedia Content Development and Management, chaired by Mr. M Moni, Deputy Director General, NIC, New Delhi
- ii) Multimedia Communication: Tools and Techniques, chaired by Prof. V Usha Reddy, Director, Centre for Human Development, Administrative Staff college of India, Hyderabad.
- iii) Metadata Creation and Management, chaired by Dr. N. V. Sathyanarayana, Informatics India, Bangalore
- iv) Open Access and Open Source Software, chaired by Dr. Ajit Kembhavi, Distinguished Professor, IUCAA, Pune
- v) Digital Preservation and Web 2.0 Applications, chaired by Dr R Sreedhar, Director, Commonwealth Media Centre for Asia (CEMCA)
- vi) Library Consortia and IPR in Digital World, chaired by Dr Jagdish Arora, Director, INFLIBNET Centre, Ahmedabad
- vii) Creating Multimedia Knowledge Hubs for Global Reach, chaired by Dr. Usha Munshi, Librarian, IIPA, New Delhi



**Fig.35: Delegates of the National Seminar on Open Access to Textual and Multimedia Content**



All the technical sessions had invited presentations from distinguished professionals on the themes of the seminar. The following 12 presentations were made during the six technical sessions of two-day seminar:

- a. Towards EDUSAT-II, by Dr. B S Bhatia, Former Director DECU / ISRO, Ahmedabad
- b. Information Retrieval Techniques for Non-textual Media, by Dr. P Balasubramanian, Director of Culture and Cultural Relations, University of Pondicherry, Puducherry
- c. Video Streaming and Broadcasting: EasyNow Presentation, by Mr. V Krishnamoorthy, Consultant, CEMCA, New Delhi
- d. E-Content Creation and Building Learning Objects Repositories, by Dr. Dayal Nathan, Consultant, Commonwealth of Learning, New Delhi
- e. Virtual University: ways to Make it Real, by Prof. Bikash Mohanty, Director, EMMRC, Roorkee
- f. Web 2.0 and Library 2.0, by Prof. G Sivakumar, Head, Department of Computer Science, IIT, Bombay
- g. Open Source Software for Academic Community, by Dr. M Sasikumar, Director, Research CDAC, Mumbai
- h. Overview of Open Access to Scholarly Content, by Dr. Usha Munshi, Librarian, IIPA, New Delhi
- i) Voice Search: Phone-based access to Internet, by Dr Prasad Ram, Head, R & D, Google India
- j) Digital Preservation, by Prof. Shalini Urs, Executive Director, ISIM, and Project In-charge of Vidyanidhi, University of Mysore, Mysore
- k) IPR in Digital Environment, by Dr. R K Chadha, Jt. Secretary, Parliament of India, New Delhi
- l) Metadata Standards for Textual and Multimedia Content, by Dr. A R D Prasad, DRTC, Bangalore

The participants and invitees of the Seminar were asked to opt for the following three working groups:

Working Group No. 1: National Library and Information Infrastructure for India (Chair: Dr. Jagdish Arora, Director, INFLIBNET Centre, Ahmedabad)

Working Group No. 2: CEC and INFLIBNET: Collaborative endeavours (Chair: Dr. Ajit Kembhavi, Distinguished Professor, IUCAA, Pune)

Working Group No. 3: Creating Multimedia Knowledge Hubs for Global Reach (Chair: Dr. Usha Mujoo Munshi, Librarian, IIPA, New Delhi)

These three working groups were divided into two parallel sessions. The recommendations of the three working groups were as follows:

- i) The delegates appreciated the presentation on the outline of the proposal on “National Library and Information Infrastructure for Scholarly Content” submitted to the MHRD by UGC-INFONET Digital Library Consortium and the INDEST-AICTE Consortium for support under the “National Mission on Education through ICT”;
- ii) It was proposed that resources such as Science Direct were missing in the existing UGC-INFONET Digital Library Consortium and should be included;
- iii) The bibliographic records of 16,000 educational video programs may be made available through the INFLIBNET's Union Catalogue;
- iv) The CEC and INFLIBNET Centre should jointly develop interactive online courseware and setup multimedia interoperable digital repositories in 17 EMMRCs;
- v) The CEC may extend its expertise for developing online tutorials, video clippings and make them available through the UGC-Infonet Digital Consortium;
- vi) It was noted that the CEC has developed several learning objects. It was recommended that these learning objects be incorporated into the IndCat (Online Catalogue of Indian Academic Libraries);
- vii) One of the tasks assigned by the UGC to the INFLIBNET Centre is to maintain its expert database. CEC may proactively help the INFLIBNET Centre in this process;

- viii) The INFLIBNET Centre should provide cross linkages between records in its bibliographic database to education program on video available with CEC;
- ix) The CEC and INFLIBNET should jointly develop tools for visually impaired students and scholars to effectively use educational programmes and e-resources;
- x) The UGC should formulate policy guidelines for all academic institutions and provide for incentives for e-content providers and production teams;
- xi) Teachers should be evaluated for their intellectual output (publications) and other forms of creativity should be equally compensated by working out similar parameters;
- xii) NAAC should give credits to academic institutions for generating e-content, setting-up of institutional repositories and for advocating for deposit of research outputs into IRs;
- xiii) Universities and research institutions should be encouraged to set-up cyber-infrastructures to facilitate creation and dissemination of content, regular updating of content and its maintenance;
- xiv) Universities should provide for human resource development and on-the-job training for all categories of staff;
- xv) E-repositories should have built-in system for e-content evaluation and feedback from their user communities;
- xvi) Universities, in collaboration with each other, should provide for an online community of open study groups for short university-level courses and online book clubs for open educational resources;
- xvii) Facilitate access and navigation to the wealth of open education materials available through educational portals;
- xviii) Create small groups of motivated learners to support the design and facilitation of courses;
- xix) Promote online teacher training videos to help with the incorporation of technology in their day-to-day teaching; and

- xx) A national level committee should prepare a white paper on policies, procedures and recommendations of the seminar including resources for promoting open access culture and creating multimedia knowledge resources.

### **8.3.1. Recommendations of the Seminar**

Taking into consideration the presentations in the Seminar by invited speakers, panel discussions and recommendations of the Working Groups, the following recommendations were made:

- i) In order to avail the benefits of ICT for access to information creation, organization, and dissemination, various academic institutions should develop adequate infrastructure to create and handle e-content. The generation of e-content and its availability should be an important parameter for evaluating the status, and reputation of academic institutions.
- ii) Many academic institutions are generating textual as well as multimedia content as a result of active pure and applied research. Efforts should be made to convert such media into e-content.
- iii) Asia (including India) lags behind the developed world in setting-up electronic repositories. The INFLIBNET and CEC should work together to develop, promote and advocate for e-repositories in universities and research institutions. All universities should adopt e-submission of theses and dissertations and set-up their ETD repositories and e-print archives. They may use the ETD Guidelines recently prepared by the UGC for the purpose. Discipline specific e-content repositories should be established in at least at five institutions, each dealing with major general subject areas.
- iv) All efforts should be made to exploit the fruits of research conducted in academic and research institutions in India in the larger interest of the nation. Universities and research institutions along with UGC should formulate intellectual property policies concerning access and use of research outputs from academic and research institutions funded by the Government of India.
- v) The EDUSAT facility has not been fully utilized due to lack of effective management, insignificant offline use of its facilities, and unused capacity beyond class hours, etc. Textual and multimedia content of CEC, Union Catalogue of INFLIBNET, already available e-content, etc. should also be accessible through EDUSAT.

- vi) Efforts should be made to study and develop Digital Rights Management (DRM) systems with an aim to provide off-campus access to e-resources subscribed by the Consortia as well as by individual institutions.
- vii) The CEC and INFLIBNET should prepare e-content guidelines and tutorials for learners.
- viii) Due to rapid changes in library technology and development of digital and virtual libraries, it is critical that a national university of library and information science be established to provide leadership to the professionals in the country.
- ix) Due to high rate of obsolescence in technology deployed (both hardware and software), digital preservation is necessary to ensure access to past information for future generations. Research efforts should be directed to make possible preservation of digital textual and multimedia content. The Ministry of Human Resource Development, Govt. of India, in association with related departments and other stakeholders, should undertake actions to preserve the e-content that is and will be created in the future.

## 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 are given below:

### 9.1. Library

The INFLIBNET Centre has a specialized library consisting of documents on computer, communication, information and library science. The library is fully computerized using in-house developed SOUL Software. The collection of the library is available online through the web OPAC of SOUL software at <http://libserver.inflibnet.ac.in/opac/opac.asp>.



**Fig. 36: Library Reading Room**

The INFLIBNET Library plays a vital role in dissemination of scientific and technical information to meet the present and future needs of the Centre. The Library also maintains databases of i) participants who attended various training programmes at the

INFLIBNET Centre; ii) institutions having SOUL software; and iii) universities and its contact details with e-mail and URL addresses. The library website at <http://libserver.inflibnet.ac.in> provides access for these databases.

### **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

### **9.1.2. CD ROM-based Search Services**

The Centre was subscribing to a large number of databases on CD-ROM consisting of bibliographic details of research articles mainly in the area of social sciences, arts and humanities. Services from these databases are available free-of-cost to the academic community including research scholars and students for their research activities. These CD-ROM databases had been discontinued since 2003 after the availability of consortia-based subscription of e-resources for member universities through UGC-Infonet Digital Library Consortium. The CD-ROM databases available at the INFLIBNET Library are as follows:

- ✓ LISA: Library and Information Science Abstract [1969-2003]
- ✓ Dissertation Abstracts International: Humanities & Social Sciences [1987-2003]
- ✓ EconLit: Economic Literature [1969-2003]
- ✓ EMBASE Drugs & Pharmacology CD [1986-2003]
- ✓ Philosopher's Index [1999-2003]
- ✓ PsycLit: Psychological Literature [1887-2003]
- ✓ Sociofile: Sociological Abstracts [1974-2003]
- ✓ Current Contents on Diskette: Social and Behavioral Sciences [1999-2003]
- ✓ Inside Science [1999-2003]
- ✓ Inside Social Science [1999-2003]

The Centre had also subscribed to the following bibliographic databases that were being used for authenticating bibliographic records of union catalogues. These databases are also available to visiting users:

- ✓ Ulrich's On Disc: International Periodicals Directory
- ✓ ISSN Compact: The ISSN register on CD-ROM [1999, 2003]
- ✓ NUCSAL: National Union Catalogue of Serials in Academic Libraries [2005]
- ✓ BNB: British National Bibliography, Current file [1986-2001]
- ✓ OCLC: Recent Books [1999]
- ✓ OCLC: Old Books [1999]
- ✓ OCLC: Serials [1999]
- ✓ OCLC: Authority file [1999]
- ✓ CDMARC: Subject Headings [1996]
- ✓ CDMARC: Names [1996]
- ✓ CDMARC: Holdings [1996]

### **9.1.3. IR@INFLIBNET (<http://dspace.inflibnet.ac.in>)**

The IR @ INFLIBNET was set-up to host full-text of research publications of technical staff as well as other publications of the Centre using D-Space, an open source digital library software developed by the Massachusetts Institute of Technology (MIT), USA in collaboration with Hewlett-Packard (HP). The D-Space supports the Open Archives Initiative's Protocol for Metadata Harvesting (OAI-PMH), an internationally recognized sets of protocol and interoperability standards. The IR@INFLIBNET provides a platform to researchers in LIS for depositing, reusing and sharing their research publications. The repository also has the ability to capture, index, store, 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 published article in PDF (if allowed by the publisher). The papers published in proceedings of the CALIBER, PLANNER and other seminars have also been uploaded into the repository in PDF format. The course materials of various training programmes and workshops, lecture notes, presentations, and newspaper clippings are also available in the INFLIBNET repository at <http://dspace.inflibnet.ac.in>. The repository has 980 full-text articles for access.

### **9.1.4. Institutional Member**

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

- ✓ American Library Association (ALA)
- ✓ National Information Standards Organization (NISO)
- ✓ Indian Library Association (ILA)
- ✓ Indian Association of Special Libraries and Information Centres (IASLIC)
- ✓ ADINET (Ahmedabad Library Network)
- ✓ British Library, Ahmedabad

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

Besides getting access to e-resources on complementary basis under the UGC-INFONET Digital Library Consortium, the Centre maintains a separate Archival Library consisting of print journals received as a part of the agreement with the participating publishers. Under the agreement, the publishers are requested to submit a print 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 the year under report, issues of journals were received from the Elsevier, Oxford University Press, Cambridge University Press, 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, Laptops and Servers**

The Centre is catering to the needs of researchers and scholars in the country. It is important to keep abreast with the technological changes by equipping the Centre with latest computing and networking infrastructure. The Centre is equipped with 75 Internet-enabled PCs with latest configuration.

In addition to PCs, laptops were also purchased for carrying to different locations for



conducting training programmes. The Centre has more than 20 laptops including six laptops given to the SOUL Coordinators. The Centre had a Xeon server and a RISC Server for its database related activities. In the year 2008-09, 4 more servers are bought to accommodate increasing demand for new services and activities as well as to implement new technologies that required servers with enhanced configuration. These servers are used for hosting services like web, mail server, list group, database etc.

Servers, PCs and other equipment added to IT infrastructure in the Centre during year 2008-2009 are given below:

Sr.	Type	Model	Nos.	Used for / Installed at
1	Servers	1U IBM 3550 Rack Server	2	Installed at Server Room
		5U IBM 3500 Tower Server	2	Installed at 1 <sup>st</sup> floor in Software R&D Room
2	Laptops	HP 6710b	10	Intel Core 2 Duo 2.2 GHz 1x 2 DDR 2 SDRAM, 120 GB SATA @5400 rpm, DVD, 15.4 " TFT, Windows Vista Business
3	PCs Desktops	Dell Optiplex755	35	Core2 duo, 2.33GHz, 1x2GB DDR2 SDRAM, 160GB SATA, Graphics card, 19" TFT, Windows Vista Business
	PC Workstation	HP Workstations xw4600	15	Core2 duo, 2.33GHz, 2x2GB DDR2 SDRAM, 300GB SATA, Graphics card, 19" TFT, Windows Vista Business
4	Switches	DES 3526	4	24-port, semi-managed
		DES 1226G	4	24-port, semi-managed
		HP ProCurve 1700-8	1	8-port, web-managed
		DES 1008D	1	8-port, Unmanaged
5	Keyboard-Video-Monitor switch	SwitchView	1	8-port
6	Firewall	Cyberoam 50i	1	Firewall, Gateway, Anti-spam, load-balancing
7	Printers	HP Officejet pro L7590	2	All-in-one Printer

### Table 15: Computer Infrastructure added during 2008-2009

In addition, RAMs of 35 old computers are upgraded to 2 GB from 512 MB in the year 2008-2009. Forty five old Pentium HP Vectra VL 800 machines (128 MB RAM, 1.7 GHz, 40 GB) are being written off after 9 years of continuous use.

### 9.2.2. Network at the Centre

Networking of the Centre is installed with standard procedure with structured cabling, firewall, manageable switches, racks, DMZ area for hosting secured servers, racks etc. as depicted in the Fig. 37 given below:

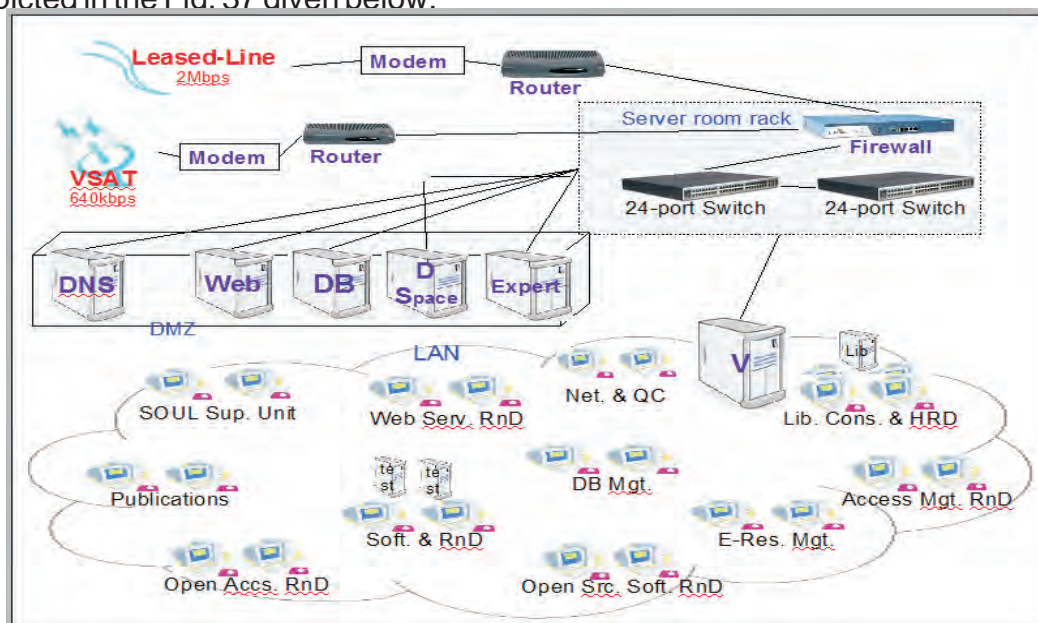


Fig. 37: INFLIBNET Local Area Network

### 9.2.3. Internet Facility

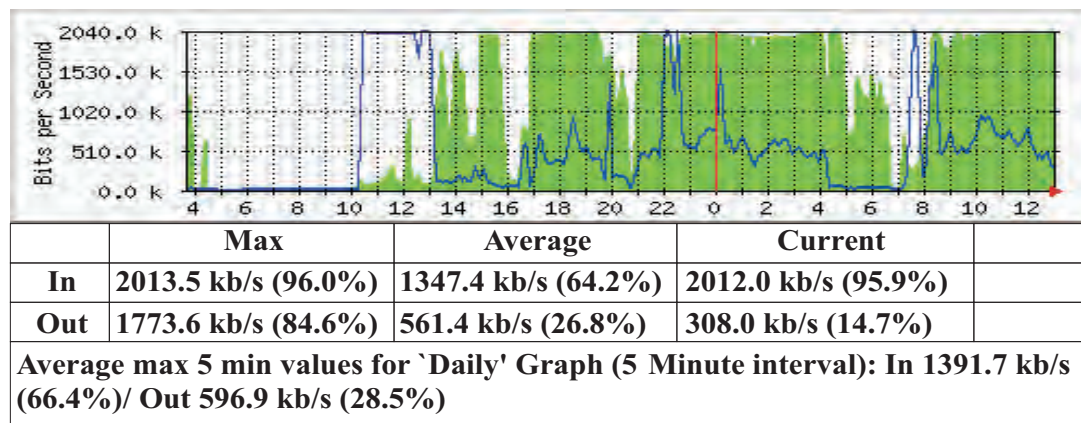
The Centre has 2 Mbps leased line Internet connectivity through ERNET under the UGC-Infonet Scheme. In addition, the Centre has a 640 kbps TDM/TDMA VSAT that is used as a standby with load balancing feature established. Links established under UGC-Infonet is also monitored by the Centre using this connectivity. Example of one of the university monitoring graphs is given below:

Traffic Analysis for IITK-BBAU (2 Mbps)

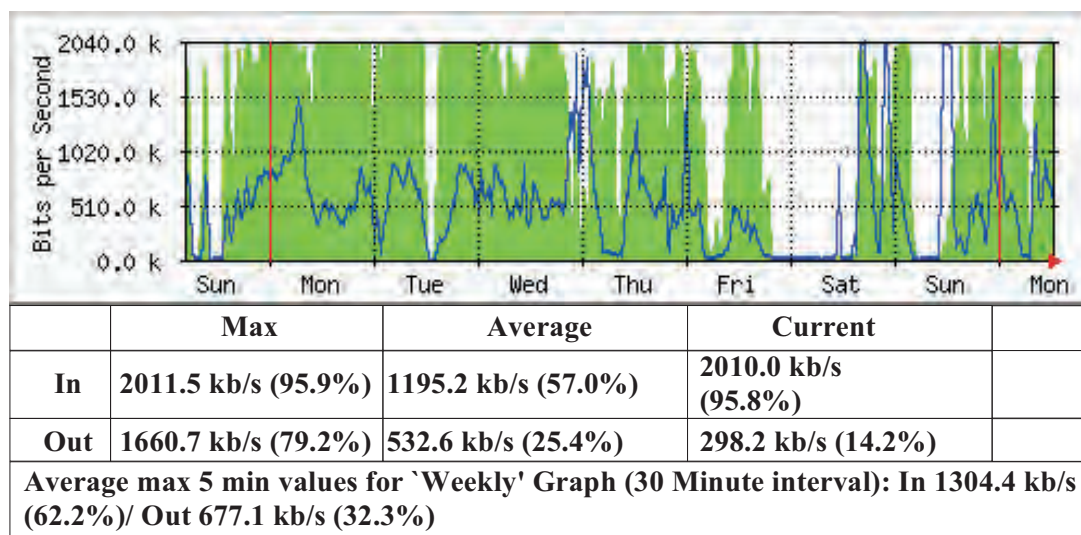
Description : IITK-BBAU

The statistics were last updated **Wednesday, 20 May 2009 at 12:41,**

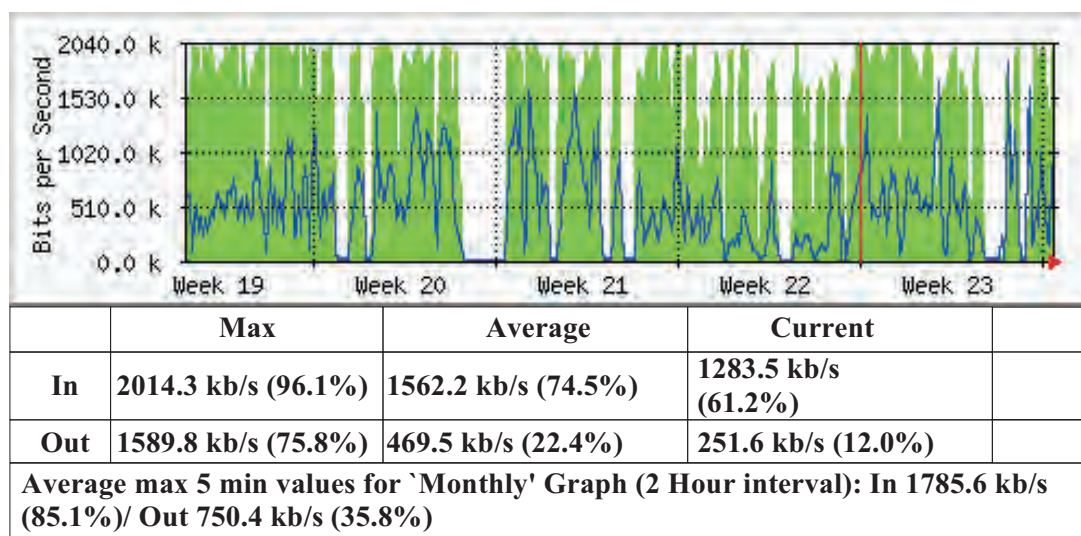
### 'Daily' Graph (5 Minute Average)



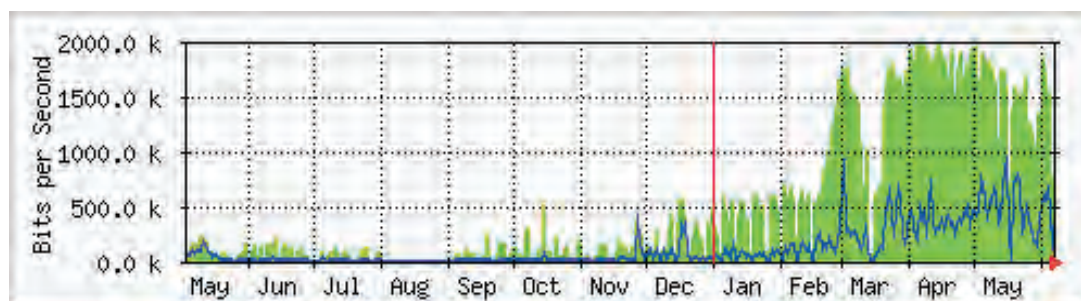
### 'Weekly' Graph (30 Minute Average)



### 'Monthly' Graph (2 Hour Average)



## 'Yearly' Graph (1 Day Average)



	Max	Average	Current	
<b>In</b>	1999.0 kb/s (95.3%)	416.8 kb/s (19.9%)	1384.8 kb/s (66.0%)	
<b>Out</b>	923.8 kb/s (44.1%)	101.6 kb/s (4.8%)	697.9 kb/s (33.3%)	
Average max 5 min values for `Yearly' Graph (1 Day interval): In 1207.1 kb/s (57.6%)/ Out 415.2 kb/s (19.8%)				

<b>GREEN ###</b>	Incoming Traffic in Bits per Second
<b>BLUE ###</b>	Outgoing Traffic in Bits per Second

## 9.2.4. Software

The Centre has licensed copies of the following software for its R&D and other related activities:

### i) Operating Systems

- Windows 2000 Advanced Server Academic Version
- Windows 2000 Desktop Operating System
- Windows Server 2000/2003 Enterprise Edition
- Microsoft Windows XP Professional
- Microsoft Windows Vista Business Edition
- Red Hat Linux 7.3/8.0/9
- Red Hat Enterprise Linux Release 3
- HP-UX 11i

### ii) RDBMS

- Oracle Workgroup 8.0
- Sybase Replication Server 11.5
- SQL Server 6.5/7.0/2000
- Oracle 9i for HP-UX

### iii) Application Development Tools

- MS VISUALC++ PRO V 5.0 (AE)
- Powerbuilder 5.x/6.0
- Microsoft Visual Studio 6.0
- Microsoft Visual Studio .Net
- Visual Studio MSDN Licence
- Smartdraw 6.0 version Professional Plus
- Oracle Internet Developer Suite
- Oracle 10i Application Server

Various miscellaneous software such as EZYBAR Bar Code Label Printing Software, Stackey-Batutil 4.0 Software, MS-Office Ver. 4.2 and 2000 Premier, ISM Office upgrade ver 3.0.4, Pagemaker 6.5 Ver. AE Software, Adobe Acrobat 4.0 AE Software, Adobe Photoshop CS3, Microsoft Exchange 2000, Jaws for Windows, and Antivirus Trend Micro Office Scan 6.5 (75 User Edition).

## 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

- ❖ Member, Board of Studies (BoS), Associateship in Information Science (AIS), INSDOC, New Delhi.

## 11. Publications

The INFLIBNET Centre has two major publications i.e. Quarterly Newsletter and Annual Report. During the period under report, in addition to print version of these publications, electronic version of the Newsletter as well as Annual Reports was made available through the Centre's website in PDF format.

### 11.1. Conference Proceedings in Print and Compact Disc

- i) **Open Access, Open Source, Open Libraries (O3)**. Proceedings of the Promotion of Library Automation and Networking in North Eastern Region (PLANNER) jointly organised by INFLIBNET Centre, Ahmedabad & Nagaland

University, Dimapur, 6<sup>th</sup> to 7<sup>th</sup> November 2008, Nagaland University, Dimapur (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2008. 504p.

- ii) **Open Access to Textual and Multimedia Content: Bridging the Digital Divide.** Proceedings of the National Seminar jointly organized by CEC, New Delhi and INFLIBNET Centre, Ahmedabad, 29<sup>th</sup> to 30<sup>th</sup> January 2009, India Habitat Centre, New Delhi (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2009. 289p.
- iii) **E-Content Management: Challenges and Strategies.** Proceedings of the 7<sup>th</sup> International CALIBER 2009 jointly organized by INFLIBNET Centre, Ahmedabad and Pondicherry University, Puducherry, 25<sup>th</sup> to 27<sup>th</sup> February 2009, Pondicherry University (eds. Jagdish Arora ... [et.al.]). Ahmedabad: INFLIBNET Centre, 2009. xv, 676p.

## 11.2. Articles Published in Journals and Conference Proceedings

**Arora, Jagdish. (2009).** Library 2.0: innovative technologies for building libraries of tomorrow. In: Open Access to Textual and Multimedia Content: Bridging the Digital Divide / Proceedings of the National Seminar organized by CEC, New Delhi and INFLIBNET Centre, Ahmedabad, January 29-30, 2009 (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2009. pp. 49-65.

**Arora, Jagdish. (2009).** Digital preservation: an overview. In: Open Access to Textual and Multimedia Content: Bridging the Digital Divide / Proceedings of the National Seminar organized by CEC, New Delhi and INFLIBNET Centre, Ahmedabad, January 29-30, 2009 (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2009. pp. 106-148. (also published in PLANNER 2006).

**Arora, Jagdish. (2009).** Information and communication technology in academic libraries. In: Open Access to Textual and Multimedia Content: Bridging the Digital Divide / Proceedings of the National Seminar organized by CEC, New Delhi and INFLIBNET Centre, Ahmedabad, January 29-30, 2009 (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2009. pp. 209-245.

**Panda, Saroj, Chavda, Nilam and Trivedi, Kruti. (2009).** A comparative study of integrated library software: SOUL2.0 and NewGenLib. In: Open Access to Textual and Multimedia Content: Bridging the Digital Divide / Proceedings of the National Seminar organized by CEC, New Delhi and INFLIBNET Centre, Ahmedabad, January 29-30, 2009 (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2009. pp. 270-272.

**Manoj Kumar K. (2009).** Networking of academic institutions for resource sharing. In: Proceedings of National Workshop on Library 2.0: a Global Information Hub organized by Physical Research Laboratory, February 5-6, 2009. Ahmedabad: PRL, 2009.

**Shah, Vaishali and Arora, Jagdish. (2009).** Metadata crosswalks. INFLIBNET Newsletter, 16(1). pp. 11-14.

**Abhishek Kumar. (2008).** INFLIBNET Toolbar for UGC-Infonet Digital Library Consortium. INFLIBNET Newsletter, 15(2). pp. 9-12.

**Rajeev Kumar. (2008).** RSS Feeds and its implementation at INFLIBNET's Website. INFLIBNET Newsletter, 15(3). pp. 11-14.

**Prem Chand, Arora, Jagdish, Naga, Moses M and Pradhan, Dinesh. (2008).** Access to e-journals through UGC-Infonet Digital Library Consortium: a study of usage trends among the universities of North-East India. In: Open Access, Open Source, Open Libraries (O3) / Proceedings of 6<sup>th</sup> Convention PLANNER 2008 organized by INFLIBNET Centre, Ahmedabad and Nagaland University, Nagaland, November 6-7, 2008 (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2008. pp. 387-399.

**Manoj Kumar K. (2008).** Open Source: philosophy of freedom and sharing for open models. In: Open Access, Open Source, Open Libraries (O3) / Proceedings of 6<sup>th</sup> Convention PLANNER 2008 organized by INFLIBNET Centre, Ahmedabad and Nagaland University, Nagaland, November 6-7, 2008 (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2008. pp. 466-473.

**Chandrakar, Rajesh and Chavda, Nilam. (2008).** Union database of theses at INFLIBNET Centre: an overview. In: Open Access, Open Source, Open Libraries (O3) / proceedings of 6<sup>th</sup> Convention PLANNER 2008 organized by INFLIBNET Centre, Ahmedabad and Nagaland University, Nagaland, November 6-7, 2008 (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2008. pp. 466-473.

**Rajeev Kumar. (2008).** RSS Feeds and its implementation at INFLIBNET. In: Open Access, Open Source, Open Libraries (O3) / Proceedings of 6<sup>th</sup> Convention PLANNER 2008 organized by INFLIBNET Centre, Ahmedabad and Nagaland University, Nagaland, November 6-7, 2008 (eds. Jagdish Arora [et.al.]). Ahmedabad: INFLIBNET Centre, 2008. pp. 474-482.

### 11.3. Papers Presented in Conferences, Seminars and Training Programmes

**Hosamani, H.G. (2009).** SOUL: an overview. Invited lecture. Refresher Course, University of Mumbai, Mumbai, January 2009.

**Manoj Kumar K. (2009).** Challenges in wireless communication. UGC sponsored National Level Short Training Program on Networking and Wireless Networking, Saurashtra University, March 27, 2009.

**Manoj Kumar K. (2009).** Web 2.0 for Interactive Information Dissemination. Invited Lecture. Department of Library Science, Calicut University, Calicut, March 5, 2009.

**Manoj Kumar K. (2008).** Knowledge management in libraries. Invited lecture. Monthly Lecture Series, ADINET, Ahmedabad, May 31, 2008.

**Prem Chand. (2008).** Latest trends in library consortia in India. Invited lecture. Monthly Lecture Series, ADINET, Ahmedabad, August 8, 2008.

**Shah, Vaishali. (2008).** SOUL Software. 2<sup>nd</sup> Refresher Course, DDU Gorakhpur University, August 4-6, 2008.

**Shah, Vaishali. (2008),** Web Designing. Refresher Course, Gujarat University, Ahmedabad, September 11, 2008.

**Manoj Kumar K. (2008).** Development of digital libraries using open source software. Invited talk. National Workshop on Developing Digital Library using GNU Eprints. Mahatma Gandhi University, Kottayam, Kerala, September 16-20, 2008.

**Chandrakar, Rajesh. (2008).** FRBR: Conceptual Model for Bibliographic Universe. Invited lecture. Monthly Lecture Series, ADINET, Ahmedabad, October 9, 2008.

**Chandrakar, Rajesh. (2008).** INFLIBNET and SOUL 2.0: an overview. Invited lecture. Workshop on Modern Library in College. Govt. D.B. Girls PG (Autonomous) College, Raipur, December 16-17, 2008.



## **12. Training Programmes / Workshops Organized by the Centre**

### **12.1. 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. 17 users awareness programmes were organized at different universities during 2008-09. Users awareness programmes are being conducted in universities regularly on the basis of requirements raised by universities. The 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 Consortium arrangement. The awareness programmes were organized at various universities and coordinated by the identified coordinators from each university in association with scientific staff of the Centre. The following universities organised user awareness programmes during the year under report:

#### **12.1.1. Bangalore University, Bengaluru, April 28-29, 2008**

Two-days User's Awareness Programme on Access to E-Resources for Teaching and Research was organized by Bangalore University, Bengaluru on 28<sup>th</sup> to 29<sup>th</sup> April 2008. The Programme was inaugurated by Dr. Jagdish Arora, Director, INFLIBNET Centre, Ahmedabad. Dr. Arora also inaugurated the UGC-Infonet Resource Centre of the Bangalore University Library. The two-day programme was divided into technical sessions and Publishers presentation. First day was devoted to e-resources in science and technology and the second day was devoted to e-resources in social sciences and humanities. The programme was coordinated by Dr. P V Konnur, University Librarian, Bangalore University. Around 200 faculty and research scholars attended the programme.

#### **12.1.2. Mohanlal Sukhadia University, Udaipur, May 9, 2008**

One-day User's Awareness Programme on E-resources was organized at Central Library, Mohanlal Sukhadia University, Udaipur on 9<sup>th</sup> May 2008. The programme was inaugurated by Prof. S C Ameta, Dean, Post Graduate Studies of the University. Dr. U K Agrawal, Deputy Librarian and Sh. T S Bohara, Assistant Librarian coordinated the programme. Sh. Rajesh Chandrakar, STO (LS) represented the INFLIBNET Centre and delivered a talk on the UGC-Infonet Digital Library Consortium. M/s. Informatics (for JCCC and Annual Report), Globe Publications (for MathSciNet, AIP and APS), GIST (for OUP and Blackwell), Springer India, Elsevier India and Emerald Group Publishing made

presentations on the e-resources available to the university under the Consortium. Approx. 200 faculty, research scholars, students and professionals attended the awareness programme.

### **12.1.3. Lucknow University, Lucknow, May 16, 2008**

Tagore Library, Lucknow University, Lucknow organized One-Day Users Awareness Programme on Access to E-resources on 16<sup>th</sup> May 2008. The awareness programme was inaugurated by Prof. A S Brar, Vice Chancellor of the Lucknow University. Dr. Jagdish Arora, Director, INFLIBNET Centre delivered the keynote address on UGC-Infonet Digital Library Consortium and e-resources available through it. Pro-Vice Chancellor, Prof. U.N. Diwedi, Deans of various faculty, Heads of the Departments, officers of the university, 63 participants comprising faculty members and research scholars including representatives from media attended the programme. Publishers and their representatives including Globe (for MathSciNet, AIP and APS), Wiley-Blackwell, Elsevier, Springer, Taylor and Francis, Cambridge University Press, Oxford University Press, Emerald, Informatics (for Annual Reviews and JCCC) and Balani Infotech (for Project Muse, Project Euclid and ACS) made presentation on their products and e-resources available to the University. Dr. Jyoti Mishra, Deputy Librarian, Tagore Library coordinated the programme

### **12.1.4. H P University, Shimla, May 23, 2008**

Himachal Pradesh University, Shimla organized One-Day User's Awareness Programme on Access to E-resources on 23<sup>rd</sup> May 2008. 95 participants including faculty, research scholars from various departments and library staff of the University attended the programme. Prof. V P Sharma, Dean of Studies was Chief Guest of the programme. Sh. Dharendra Sharma, In-Charge HPU Campus Wide Optical Fibre made a presentation on fully operational campus wide network of the University. Sh. Prem Chand, Scientist D of the Centre delivered a talk on UGC-Infonet Digital Library Consortium as representative of the INFLIBNET Centre. Representatives of Springer, Elsevier, American Chemical Society, Institute of Physics, Royal Society of Chemistry, Annual Reviews, Cambridge University Press and AIP/APS made presentations on the e-resources being made accessible to the Himachal Pradesh University under the consortium arrangement.

### **12.1.5. Bundelkhand University, Jhansi, July 21, 2008**

One-Day User's Awareness Programme on Access to E-Resources was organised at Bundelkhand University, Jhansi on 21<sup>st</sup> July 2008. The programme was inaugurated by

Prof. O.P. Kandari, Pro Vice Chancellor, Bundelkhand University, Jhansi. Dr. J. Sridevi, Assistant Librarian of the University coordinated the programme. Sh. Prem Chand, Scientist D (LS) represented the INFLIBNET Centre and delivered the keynote address. Around 100 participants comprising of faculty, research scholars and students of the University attended the programme. The programme consisted of two technical sessions. Various publishers representing UGC-Infonet Digital Library Consortium made presentations on their e-resources accessible to the University. They were Balani InfoTech (for Project Muse, ASC, Project Euclid), GIST (for Oxford University Press and Blackwell), Globe (for American Institute of Physics, American Physical Society and MathSciNet), Springer, Book Marketing Services (for Institute of Physics and Royal Society of Chemistry), Cambridge University Press, and Informatics (for Annual Reviews and JCCC).

### **12.1.6. Bharathidasan University, Bharthidasan, August 1-2, 2008**

The Bharathidasan University Library organized two-days User's Awareness Programme on Access to E-Resources through UGC-Infonet Digital Library Consortium on 1<sup>st</sup> to 2<sup>nd</sup> August 2008. The programme was inaugurated by Dr. M. Ponnaivaikko, Vice Chancellor, Bharathidasan University. Sh. Manoj Kumar K, Scientist-D (CS) from the Centre delivered keynote address on the role of INFLIBNET Centre in networking and sharing the knowledge among the universities. The awareness programme was divided into ten technical sessions. Following presentations were made during these sessions:

- UGC-Infonet Digital Library Consortium: Access to e-resources to Bharathidasan University / by Sh. Manoj Kumar K, Scientist-D (CS), INFLIBNET Centre
- Scholarly publications and its relevance in research / Prof. K.V. Krishnasamy
- Credibility of web resources, by Prof. B Ramesh Babu, Department of Library and Information Science, University of Madras, Chennai
- E-Resources and its impact on e-learning, by Prof. Gopinath Ganapathy, Bharathidasan University, Bharathidasan

The Publisher's representatives including Informatics (for JCCC), Emerald, Cambridge University Press, Springer, Oxford University Press, Taylor & Francis and Balani InfoTech (for Project Muse, ASC and Project Euclid) made presentations on the e-resources available to the University under the Consortium. The programme was attended by 140 research scholars, 80 faculty members and 108 library professionals of University and affiliated colleges. Dr. S. Srinivasa Ragavan, Librarian and Head, Department of Library and Information Science, Bharathidasan University coordinated the programme.

### **12.1.7. Pondicherry University, Puducherry, September 25-26, 2008**

Ananda Rangapillai Library, Pondicherry University, Puducherry organised two-days “Users Awareness Programme on Access to E-Resources” under the UGC-INFONET Digital Library Consortium on 25<sup>th</sup> and 26<sup>th</sup> September 2008. Prof. J.A.K. Tareen, Vice-Chancellor of the University inaugurated the programme. Sh. Manoj Kumar K, Scientist D (CS) representing INFLIBNET Centre made presentation on the UGC-Infonet Digital Library Consortium and its activities and services. 450 participants mainly faculty, research scholars, students and librarians of the University and affiliated colleges participated in the programme. The first day of the programme was devoted to e-resources in sciences and technology while second day was devoted to e-resources in social sciences and humanities. Dr. Samyuktha Ravi, University Librarian coordinated the programme.

### **12.1.8. University of Madras, Chennai, September 29-30, 2008**

Two days User's Awareness Programme on Access to E-Resources was organized by Madras University Library on 29<sup>th</sup> September at Chepauk Campus for Humanities and Social Sciences and on 30<sup>th</sup> September 2008 at Guindy Campus for Life Sciences and Medical Sciences. There were 321 participants including 121 research scholars, 49 M.Phil, 85 post graduate students, 25 faculty and 41 library professionals. Professor S. Ramachandran, Vice Chancellor of University inaugurated the programme. Dr. Jagdish Arora, Director, INFLIBNET Centre made presidential remark. Professor A. Amudhavalli, Head, Department of Information Science made a presentation on activities and services of the INFLIBNET Centre. Representatives from various Publishers / Aggregators were invited for presentations on their e-resources confining to the disciplines / subjects covered in the respective campuses. Representative from Informatics (for JCCC and Annual Reviews), Springer, Taylor & Francis, Global Information Systems Technology (GIST) (for Wiley-Blackwell and Oxford University Press), Globe Publications (for American Institute of Physics, American Physical Society and MathSciNet), Cambridge University Press, Balani Infotech (for Project Muse, Emerald, ASC and Project Euclid) and SciFinder Scholar made presentations on their product accessible to the University of Madras under the UGC-Infonet Digital Library Consortium. Dr. R. Ambuja, Librarian I/c, Madras University Library coordinated the programme.

### **12.1.9. Manipur University, Imphal, October 10, 2008**

The Manipur University, Imphal organized One-Day User's Awareness Programme on Access to E-Resources under the UGC-Infonet Digital Library Consortium on 10<sup>th</sup> October 2008. The programme was inaugurated by Professor H N K Sarma, Pro Vice Chancellor of the University. Shri Prem Chand, Scientist D, INFLIBNET Centre delivered

the Keynote address. Professor N Lokendra Singh, Registrar, delivered presidential speech during inaugural session. About 150 delegates consisting of teachers, research scholars, students and staff participated in the programme. Representative from Informatics (for JCCC and Annual Reviews), Springer, Global Information Systems Technology (GIST) (for Wiley-Blackwell, Oxford University Press and Taylor & Francis), Cambridge University Press and Balani Infotech (for Project Muse, ACS, SIAM, Emerald and Project Euclid) made presentations on their product accessible to the Manipur University under the UGC-Infonet Digital Library Consortium. Dr. Th. Khomdon Singh, Librarian (I/c), Manipur University coordinated the Programme.

### **12.1.10. Jawaharlal Nehru University, New Delhi, October 15, 2008**

One-Day User's Awareness Programme on Access to E-Resources through UGC-Infonet Digital Library Consortium was organized at the Jawaharlal Nehru University Library, New Delhi on 15<sup>th</sup> October 2008. The Workshop was inaugurated by Prof. Rajendra Prasad, Rector, Jawaharlal Nehru University (JNU) and was presided over by Professor Shashi Kant Jha, Chairman of Library Advisory Sub Committee. Sh. Prem Chand, Scientist D, representing the INFLIBNET Centre, highlighted the scope of UGC-Infonet Digital Library Consortium. Publishers associated with the Consortium namely Taylor & Francis, Springer, Emerald, Informatics (for Annual Reviews and JCCC), Balani Infotech (SIAM, ACS and Project Muse), Oxford University Press, GIST (for Wiley-Blackwell), Globe (for AIP/APS and MathSciNet) and Cambridge University Press delivered presentations about their e-resources accessible to the University under the Consortium. More than 140 Faculty, research scholars, students and library staff of the University participated in the Workshop. Dr. Krishan Gopal, Acting Librarian of the University coordinated the Workshop.

### **12.1.11. University of Mysore, Mysore, October 21-22, 2008**

The Department of Library and Information Science, University of Mysore, Mysore organized two-day User's Awareness Programme on Access to E-Resources under the UGC-Infonet Digital Library Consortium on 21<sup>st</sup> to 22<sup>nd</sup> October 2008. Prof. P Venkataramaiah, former Vice Chancellor of Kuvempu University inaugurated the programme. Prof. T.C. Shivshankarmurthy, Acting Vice Chancellor, University of Mysore, Mysore, presided over the inaugural function. Sh. Prem Chand, Scientist-D represented the INFLIBNET Centre and made presentation on the usage of e-resources in universities in India with special reference to the University of Mysore. The programme was attended by more than 350 participants comprising of faculty, research scholars, students and library staff of the University. Various publishers associated with the Consortium included Informatics (for JCCC and Annual Reviews), Springer, Cambridge University Press, GIST

(Oxford University Press and Taylor & Francis), and Emerald presented about their e-resources available to the university. Panel discussion was also part of the training programme, Dr. Konnur, University Librarian, Bangalore University, Dr M Krishnamurthy, former University Librarian, Mysore University, Dr. Siddamallaiah, Librarian, NIMHANS, Bangalore, Dr. Khaiser Nikam, Chairman & Organizing Secretary of the programme were panellists. Dr. Khaiser Nikam, Head, Department of Library & Information Science coordinated the programme.

### **12.1.12. Rajiv Gandhi University, Itanagar, November 10, 2008**

Rajiv Gandhi University, Itanagar organized One-Day User's Awareness Programme on E-Resources under the UGC-Infonet Digital Library Consortium at Rajiv Gandhi Seminar Hall on 10<sup>th</sup> November 2008. The programme was inaugurated by Dr. R C Joshi, Head, Department of Geography and In-charge Vice Chancellor. More than 50 faculty members, research scholars, students from various departments participated in the awareness programme. Sh. Prem Chand, Scientist D represented INFLIBNET Centre in the programme. Representatives from Cambridge University Press, Oxford University Press, Taylor and Francis, Springer Links, Balani Infotech (for American Chemical Society, Project Muse and Project Euclid), Globe (for AIP/APS and MathSciNet), Informatics (for Annual Reviews and JCCC) gave presentations on e-resources accessible to the University under Consortium arrangement. Shri Maltesh Motebennur, Deputy Librarian coordinated the programme.

### **12.1.13. GGS Indraprastha University, New Delhi, November 17, 2008**

Guru Gobind Singh Indraprastha University organized User's Awareness Programme on UGC-Infonet E-Resources on 17<sup>th</sup> November 2008. The Awareness Programme was inaugurated by Professor K K Agrawal, Vice Chancellor of the University. Dr. Jagdish Arora, Director, INFLIBNET Centre delivered keynote address on "Current Status and Future Endeavours of INFLIBNET Centre" with emphasis on UGC-Infonet Digital Library Consortium. The Awareness Programme was attended by more than 150 participants comprising of faculty, research scholars, students and library staff of the University. Representatives of Publishers namely Balani Infotech (for American Chemical Society, Project Euclid, Project Muse), Globe (for AIP, APS and MathSciNet), Informatics (for JCCC and Annual Reviews), GIST (for Oxford Journals Online and Wiley-Blackwell), ISID Online Database, Book Marketing Services (for IOP and RSC), Springer and Taylor & Francis made presentation on their e-resources available to the University. Shri Shubhash Deshmukh, Librarian, University Resource Centre coordinated the programme.

### **12.1.14. Annamalai University, Annamalai, January 22-23, 2009**

The Annamalai University organized two-day User's Awareness Programme on Access to E-Resources under UGC-Infonet Digital Library Consortium from 22<sup>nd</sup> to 23<sup>rd</sup> January 2009. Dr. C. Sambandham, Librarian In-Charge, Annamalai University welcomed the participants. Dr. M. Rathinasubapathi, Registrar of the University inaugurated the programme. Shri Manoj Kumar K, Scientist D (CS) represented INFLIBNET Centre and delivered keynote address on UGC-Infonet Digital Library Consortium. Six representatives of the publishers attended the programme and made presentations on their e-resources available to the university under UGC-Infonet Digital Library Consortium. 250 participants mainly faculty, students, research scholars and library professionals of the university participated in the programme. Representative from Informatics (for JCCC and Annual Reviews), Springer, Global Information Systems Technology (GIST) (for Wiley-Blackwell, Taylor & Francis and Oxford University Press), Globe Publications (for American Institute of Physics and American Physical Society), Cambridge University Press, Balani Infotech (for Project Muse, Emerald and ACS) and Book Marketing Services (for IOP and RSC) made presentations on their product accessible to the Annamalai University under the UGC-Infonet Digital Library Consortium. Prof. B. Palaniappan, Dean, Faculty of Engineering and Technology presented the concluding remark.

### **12.1.15. University of Kalyani, Kalyani, February 2-3, 2009**

The University of Kalyani organized two-day User's Awareness Programme on Access to E-Resources under the UGC-Infonet Digital Library Consortium from 2<sup>nd</sup> to 3<sup>rd</sup> February 2009. 110 participants consisting of faculty members, research scholars, students, library professionals of the university and its affiliated colleges along with neighbouring academic and research libraries participated in the programme. Dr. Jagdish Arora, Director, INFLIBNET Centre inaugurated the programme and made a presentation on activities of the INFLIBNET Centre with emphasis of the UGC-Infonet Digital Library Consortium. Prof. Arabinda Kumar Das, Vice Chancellor of the university presided over the function and delivered the presidential address. Dr. Himanshu Ghosh, Chairman, West Bengal College Service Commission was the Chief Guest. Dr. Asitabha Das, Joint-Coordinator and Deputy Librarian of the University proposed a warm vote of thanks. During the technical sessions, representatives of the publishers included Oxford University Press, Informatics India (for JCCC and Annual Review), Taylor & Francis, Balani Infotech (for SIAM, ACS, Project Muse and Project Euclid), GIST (Wiley-Blackwell) made presentations on e-resources accessible to the university of Kalyani through UGC-Infonet Digital Library Consortium.

### **12.1.16. University of Calicut, Kerala, March 6, 2009**

The CHMK Library, University of Calicut organized one-day User's Awareness Programme on Access to E-Resources under UGC-Infonet Digital Library Consortium on 6<sup>th</sup> March 2009. The programme was inaugurated by Dr. C Gopinathan Pillai, Pro-Vice Chancellor, University of Calicut. Mr. Manoj Kumar K, Scientist D (CS) from the INFLIBNET Centre delivered the keynote address. The programme was attended by 346 participants comprising of faculty members, research scholars, library professionals and postgraduate students of the University and its affiliated colleges. Various publishers representing e-resources made accessible to the UGC-Infonet Digital Library Consortium made presentations on their e-resources accessible to the University. Publishers who made presentations includes M/s Informatics India (JCCC, Annual Reviews), GIST (for Wiley-Blackwell), Taylor & Francis, Oxford University Press, Globe Publications (for MathSciNet, AIP/APS), Springer Link, Balani Infotech (for Project Muse, Project Euclid and ACS) and Book Marketing Services (for IOP, RSC and Portland Press). The programme was coordinated by Dr. Abdul Azeez T A, University Librarian In-charge, University of Calicut.

### **12.1.17. University of North Bengal, Jalpaigudi, March 6, 2009**

University Library, University of North Bengal, Jalpaigudi organised one-day User's Awareness Programme on Access to E-Resources under the UGC-Infonet Digital Library Consortium on 25<sup>th</sup> March 2009. Prof. Arunava Basumajumdar, Vice-Chancellor, University of North Bengal inaugurated the programme. Prof. Basumajumdar while inaugurating the programme emphasised on the utilization of the e-resources. Dr. Subal Chandra Biswas, Professor, Department of Library and Information Science, University of Burdwan was the Chief Guest of the programme. Mr. Prem Chand, Scientist-D (LS), INFLIBNET Centre delivered the Keynote address on UGC-Infonet Digital Library Consortium. 250 participants consisting of faculty members, officers, research scholars, students, librarians and teachers from colleges affiliated with University of North Bengal attended the programme. Dr. Bablu Sutradhar, Librarian, IIT, Kharagpur was invited for delivering best practices on use of e-resources available at IIT, Kharagpur library. Publishers / their representatives including Elsevier, Taylor & Francis, Springer Link, Oxford University Press, and Informatics (for JCCC & Annual Reviews) made presentation on their e-resources. The programme was concluded by the Chief Guest, Dr. Dilip Kumar Sarkar, Registrar, University of North Bengal and Chairman, Dr. Subal Chandra Biswas, Professor, Department of Library and Information Science, University of Burdwan. The programme was coordinated by Mr. Mriganka Mandal, Librarian, University of North Bengal.



## **12.2. National Workshop and Seminars**

The Centre organized the following training programmes during the period under report:

### **12.2.1. Resource Sharing Through JCCC, August 18, 2008, Bengaluru**

The JCCC (J-Gate Customized Content for Consortium) is made accessible to universities under the UGC-Infonet Digital Library Consortium to facilitate Inter-library loan of research articles amongst universities. The JCCC provides content-level access to all e-resources subscribed under the UGC-Infonet Digital Library Consortium as well as content of the journals that are being subscribed by 22 university libraries identified as the ILL Centres. Besides providing search and browse platform for journals covered under the UGC-Infonet Digital Library Consortium and 22 ILL Centres, the JCCC platform also facilitates generation of ILL requests addressed to one of the 22 holding universities. The interface is being used extensively. More than 2066 ILL requests were generated and handled since the launch of the JCCC in March 2008 by Prof. Sukhadeo Thorat, Chairman, UGC, New Delhi.

The INFLIBNET, in collaboration with Informatics, Bangalore organised one-day training programme on practical and operational aspects of JCCC for 22 ILL member libraries on 18<sup>th</sup> August 2008 at Informatics, Bangalore. Representatives from 15 ILL designated universities attended the programme. The suggestions, feedbacks and issues raised for implementation and initiation of resource sharing among member libraries were discussed. The ILL Centres were confirmed to incorporate all the suggestions made during the programme.

### **12.2.2. Awareness Program for MLIS Students in Gujarat, Gujarat University Library, 30th December 2008**

ADINET, in collaboration with INFLIBNET Centre, and Department of Library and Information Science, Gujarat University, Ahmedabad organized Awareness Programme for MLIS Students in Gujarat at Gujarat University Library on 30<sup>th</sup> December 2008 with following objectives:

- to make students aware about advancements in the field of ICT related to LIS;
- to inject managerial and librarianship skills in the participating students;
- to enhance the understanding about the required information literacy skills;

- to inform the students about the necessity of supplementing traditional learning with e- learning;
- to create awareness about the importance of quality work, especially information products and services and the need for an attitudinal change; and
- to infuse the requisite qualities required by library science professionals.

The programme was inaugurated by Dr. Jagdish Arora, Director, INFLIBNET Centre, Ahmedabad.

### 13. Distinguished Visitors

The following distinguished visitors visited Centre during the period under report:

- Dr. Harish Chandra, Librarian, Indian Institute of Technology Madras, Chennai
- Dr. Usha Mujoo Munshi, Librarian, Indian Statistical Institute, Kolkatta
- Dr. M. Koteswara Rao, Librarian, University of Hyderabad, Hyderabad
- Mr. Arthur Smith, Director, India Business Development, OCLC, Dublin, USA
- Mr. Michael A. Teets, Vice President, Global Engineering, OCLC, Dublin, USA
- Mr. Rein van Charldorp, Managing Director, OCLC PICA, Birmingham, UK
- Dr. Daulat Jotwani, Librarian, Indian Institute of Technology Bombay, Mumbai
- Prof. Sukhdev Thorat, Chairman, University Grants Commission, New Delhi
- Mrs. Renu Batra, Joint Secretary, University Grants Commission, New Delhi
- Dr. R K Chadha, Joint Secretary, Parliament Library, Lok Sabha Secretariat, New Delhi
- Dr. Pawan Kumar Gupta, Deputy Librarian, University of Rajasthan, Jaipur
- Dr. T. R. Kem, Director, CEC, New Delhi (Former Secretary, UGC)
- Dr. A.R.D. Prasad, Associate Professor, Documentation Research and Training Centre, Indian Statistical Institute, Bangalore
- Prof. S.S. Kadam, Vice Chancellor, Bharati Vidyapeetha, Pune
- Prof. Ajit Kembhavi, Dean and Senior Scientist, IUCAA, Pune
- Prof. S. K. Khanna, Chairman, Governing Board, INFLIBNET Centre, Ahmedabad

- Dr. M. Moni, Deputy Director, NIC, New Delhi
- Dr. Parimal H. Trivedi, Vice Chancellor, Gujarat University, Ahmedabad
- Prof. M R Rawtani, Head, Department of Library and Information Science, Rajasthan University, Jaipur
- Prof. M. N. Patel, Vice Chancellor, Gujarat Technological University, Ahmedabad

## **14. Academic Interaction with Universities and other Research Institutions**

14 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 in Gujarat and neighbouring states for the training at the INFLIBNET, the Centre selects limited student trainees. Facilities are also available to the library science students of IGNOU as well as Gujarat University, Ahmedabad for using e-resources available at the Centre.

## **15. Project @ INFLIBNET Centre**

### **15.1. N-LIST**

The UGC-INFONET Digital Library Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium, IIT Delhi had submitted a joint project entitled “National Library and Information Services Infrastructure for Scholarly Content (N-LIST)” to the Ministry of Human Resource Development (MHRD) under its National Mission on Education through ICT. The project provides for cross-subscription to e-resources i.e. subscription to INDEST-AICTE resources for universities and UGC-Infonet resources for technical institutions as well as for subscription to UGC-INFONET e-resources for colleges. The project has been sanctioned and the Ministry has released Rs. 15.00 crores for the joint project.

The National Library and Information Services Infrastructure (NLII) is proposed to be built around central universities, IITs and IISc with e-resources accessible to these institutions through INDEST-AICTE and UGC-INFONET Digital Library Consortium respectively. While universities (central and state), IITs and IISc will serve as a nucleus around which a NLII would be built, more than 6,000 Govt. / Govt.-aided colleges and R & D institutions would be networked with the nuclei so as to explore, exploit and use resources accessible from these nuclei institutions. The NLII will consist of three major components namely i) NLII Resource Centres (NRCs); ii) Beneficiary Institutions; and iii) NLII Monitoring

Agency. In the first phase of activity NLII Monitoring Agency, i.e. INFLIBNET would also function as a NLII Resource Centre for all the 6,000 colleges.

The INFLIBNET Centre, as an NLII Resource Centre, would subscribe to 30 additional sets of 15 e-resources and made accessible to 6,000 Govt. / Govt.-aided colleges. In other words, one subscription will be paid for every 200 colleges. These resources would be accessible to colleges through proxy servers proposed to be set-up at the INFLIBNET Centre. All subscribed e-resources, accessible to colleges through proxy servers, may have an upper limit to number of downloads that can be made from each e-resource which will be equivalent to the maximum number of articles downloaded by a university for a given resource.

The INFLIBNET Centre, Ahmedabad will be responsible for deploying appropriate authorization and authentication mechanism so as to provide access to e-resources to all the colleges through proxy servers. While, most publishers of online digital content supports IP filtering and password-based authentication to provide access to their electronic resources, however, there are several other technologies and protocols that are in vogue for authenticating users to access and operate upon digital materials irrespective of their log-in location. Such technologies include Web proxies, Shibboleth, Referring URL, Kerberos, etc. All such access management technologies will be examined with an aim to help universities and colleges to adopt authentication technologies to facilitate access to e-resources to the off-campus community as well as to colleges that do not have static IP addresses.

Individuals (including students, researchers and faculty) from colleges and other beneficiary institutions would have direct access to e-resources through proxy server(s) proposed to be set-up at the INFLIBNET Centre. The users from colleges would be able to download articles required by them directly from the publisher's website once they are duly authenticated as authorized users through the proxy servers specifically proposed to be deployed for this purpose. The authentication of colleges may be done first i) at Department / Centres / Unit level in a college; ii) on IP used by colleges (in case colleges have static IP-addresses); and iii) Names of individual faculty, researchers and students. The INFLIBNET Centre would be responsible developing software tools required for authenticating the users. The Centre would also monitor usage of e-resources with an aim to check misuse or trouble shooting faced by beneficiary colleges.

### **15.1.1. Computing and Network Infrastructure**

Computing and network infrastructure is a pre-requisite for accessing e-resources. All beneficiary institutions would, therefore, be required to set-up adequate computer and network infrastructure at their premises so as to enable researchers and students to access e-resources made available to them through the INFLIBNET Centre. While

colleges and other beneficiary institutions would be responsible for setting-up their campus LAN and computer laboratories, the MHRD, under the National Mission on Education through ICT, would provide Internet connectivity to all educational institutions (including colleges), a pre-requisite for providing access to e-resources.

### **15.1.2. Current Status**

The joint project proposal submitted by the UGC-Infonet Digital Library Consortium and the INDEST-AICTE Consortium to the MHRD under the National Mission on Education through ICT has been sanctioned and the Ministry has released Rs.15.00 crores as first installment. Dr. Jagdish Arora, Director, INFLIBNET Centre and Prof. Surendra Prasad, Director, IIT Delhi are the Principal Investigators of the Project.

The INFLIBNET Centre is currently evaluating the availability of ICT infrastructure in Govt. / Govt.-aided colleges. For further information on this initiative, visit the project Web site at <http://www.inflibnet.ac.in/n-list/>. Colleges eligible for the scheme (12 B / 2 F) are invited to register online by filling-in the Registration Form.

### **15.2. 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 NIAS (National Institute of Advanced Studies), Bengaluru has taken a joint project on “Sharing and Analysis of Bibliographic Records of Theses” funded by the Tata Consultancy Services, Bengaluru. The INFLIBNET and NIAS will be analysing the bibliographic records of the Ph.D. theses 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.

### **15.3. 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 has taken a project from Sir Ratan Tata for extending access to e-resources to selected social science colleges and research institution in Maharashtra state. The Centre has 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). The colleges selected under the project will get access to e-resources for a period of three years.

## **16. Other Notable Activities**

### **16.1. Librarian's Day Celebration**

The INFLIBNET, ADINET and the Ahmedabad Management Association (AMA) jointly organized Librarian's Day at HT Parekh Convention Centre, AMA, Ahmedabad on August 9, 2008. Dr. J N Goswami, Director, PRL delivered the inaugural address. Sh. Sunil Shah, Vice President, AMA was the Guest of Honour. Sh. Kartikeya Sarabhai, Chairman, ADINET Governing Council and Director CEE gave presidential address. Dr. Jagdish Arora, Director, INFLIBNET Centre delivered the keynote address on Web 2.0 and Library 2.0. Mrs Rodha Bharucha, Hon. Director of ADINET proposed a warm vote of thanks. Seven papers were presented on different aspects of current trends in libraries in the digital era. Presentations and demonstrations from various publishing industries were also arranged during the technical sessions. More than 350 participants from Gujarat and neighbouring states participated in the event.

### **16.2. Independence Day Celebration**

The INFLIBNET staff and their families celebrated the 62<sup>nd</sup> Independence Day of the Nation at the Centre on 15<sup>th</sup> August 2008. Sh. Manoj Kumar, Scientist-D (CS) of the Centre hoisted the national flag and addressed the gathering consisting of staff and their family members.

### **16.3. Republic Day Celebration**

The Centre celebrated 61<sup>th</sup> Republic Day of the nation on Monday, 26<sup>th</sup> January 2009 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.

## **17. 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>.

## **18. Financial Status**

The Audited Annual Accounts of INFLIBNET Centre for the financial year 2007-2008 is given as Appendix XII

### 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

**A Senior Civil Engineer**

Central Public Work Department  
Gandhinagar

**Prof. H A Ranganath**

Director  
NAAC, Bengaluru

**Mr. Rajeev Kathpalia**

Vastu-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

**Shri C K Shah** (Convener)

Admn. Officer (P&A)  
INFLIBNET Centre  
Ahmedabad



**Governing Council  
(As on 31.03.2009)**

**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

**Chairman, AICTE**  
Indira Gandhi Sports Complex  
New Delhi

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

**Prof. Javeed Alam**  
Chairman, ICSSR  
JNU Institutional Area  
Aruna Asaf Ali Road  
New Delhi

**Dr. K K Banerjee**  
Director  
National Library  
Belvedr, Kolkatta

**Dr. Kamlakar Singh**  
Vice-Chancellor  
M P Bhoj (Open) University  
Shivaji Nagar, Bhopal

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

**Dr. T R Kem**  
Director  
Consortium for Educational  
Communication (CEC)  
IUAC, NSC Campus  
Aruna Asaf Ali Marg  
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 31.03.2009)**

**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

**Sh. R. K. Chauhan**

Secretary  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Dr. Parimal H. Trivedi**

Vice Chancellor  
Gujarat University, Navrangpura  
Ahmedabad

**Member Secretary**

AICTE  
Indira Gandhi Sports Complex  
New Delhi

**Prof. J.A.K. Tareen**

Vice-Chancellor  
Pondicherry University  
R V Nagar, Kalapet  
Pondicherry

**Dr. Jai Rup Singh**

Vice Chancellor  
Guru Nanak Dev University, Amritsar  
Punjab

**Dr. S B Mujumdar**

Vice-Chancellor  
Symbiosis Institute of International  
Business, Symbiosis Infotech Campus  
Plot No. 15, Rajiv Gandhi Infotech  
Park, MIDC, Hinjewadi, Pune

**Dr. Muttayya Koganuramath**  
**Librarian**

Sri Dorabji Tata Memorial library  
Tata Institute of Social Sciences  
Deonar, Mumbai

**Prof. Rajiv Sangal**

Director  
International Institute of  
Information Technology  
Gachibowli, Hyderabad

**Dr. M Moni**

Deputy Director General  
Deptt. of Information Technology  
Ministry of Communication and IT  
National Informatics Centre  
'A' Block, CGO Complex  
Lodhi Road, New Delhi

**Dr. Naresh Kumar Dadhich**

Director  
Inter University Centre for Astronomy  
and Astrophysics  
Ganeshkhind, Pune

**Dr. Jagdish Arora**

Director (Member Secretary)  
INFLIBNET Centre  
Near Gujarat University Guest House  
PB No.4116, Navrangpura  
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.(Mrs.) Renu Batra**  
Joint Secretary  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Sh. R K Chauhan**  
Secretary  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Dr. Jagdish Arora**  
Director  
INFLIBNET Centre  
Ahmedabad

**Sh. A K Dogra**  
Financial Adviser  
University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi

**Sh. Manoj Kumar K**  
Scientist-D (CS)  
INFLIBNET Centre  
Ahmedabad

**Prof. Rajiv Sangal**  
Director  
IIIT Gachibowli  
Hyderabad

**Sh. D P Negi** (Non-Member Secretary)  
Admin Officer (PA&F)  
INFLIBNET Centre  
Ahmedabad

## Appendix V

### Technical, Administrative and Supporting Staff

(As on 31.03.2009)

<b>Scientific &amp; Technical Staff</b>		
<b>Sr. No.</b>	<b>Name of the employee</b>	<b>Designation</b>
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 R. K. Chandrakar	Scientist -B (LS)
8	Shri Abhishek Kumar	Scientist -B (CS)
9	Shri Rajeev Kumar	Scientist -B (CS)
10	Mrs. Vaishali. A. Shah	S.T.O – I (LS)
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. Ahtani	Section Officer (P)
4	Shri Sanja y R. Shah	Office Assistant -II
5	Shri S.F. Vanikar	Office Assistant. -II (on lien since 31.08.2007)
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

### Contractual Staff

1	Shri. Dineshkumar L Rayka	Computer Programmer
2	Shri Divyakant R. Vaghela	Computer Programmer
3	Shri Yogesh J ayantibhai Rathod	Project Officer (CS)
4	Shri. Vivekkumar Dhirubhai Patel	Project Officer (CS)
5	Shri Swapnil P. Patel	Project Officer (CS)
6	Ms. Heli Harishkumar Banker	Project Officer (CS)
7	Ms. Ami R. Modi	Project Assistant (CS)

8	Ms. Daksha H alpati	Project Associate (CS) since 16.03.2009
9	Shri Mayur Gohel	SOUL Technical Assistant (CS)
10	Ms. Nilam C. Chavda	Project Ass ociate (LS)
11	Shri Mohit Kumar	Project Assistant (CS)
12	Ms. Kruti J. Trivedi	Project Officer (LS)
13	Shri Saroj Ku mar Panda	Project Assistant (LS)
14	Ms. Reshma Sevantikumar Panchal	Project Assistant (LS)
15	Shri Dinesh Ranjan Pradhan	Project Ass ociate (LS)
16	Shri Dharmeshkumar Arunkumar Shah	Technical Assistant (CS)
17	Shri Vijaykumar M Shrimali	Technical As sistant (CS)
18	Shri Rupesh Kumar P Patel	Trainee (Office Assistant DEO)
19	Ms. Jigisha Nityanandbhai Pandya	Trainee (Office Assistant DEO)

## Appendix VI

### No. of Records Contributed by the Participating Universities to the Books Database

Sr. No.	University Name	Records at INFLIBNET Centre
1	Acharaya Nagarjuna University, Guntur, Andhra Pradesh	32794
2	Alagappa University, Sivaganga, Tamil Nadu	43635
3	Aligarh Muslim University, Aligarh, Uttar Pradesh	162157
4	Andhra University, Waltair, Andhra Pradesh	216049
5	Anna University, Chennai, Tamil Nadu	98640
6	Annamalai University, Annamalai Nagar, Tamil Nadu	473810
7	Assam University, Silchar, Assam	20000
8	Avinashlingam University for Women, Coimbatore	82452
9	Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh	15850
10	Banaras Hindu University, Varanasi, Uttar Pradesh	445000
11	Banasthali Vidyapith, Rajasthan	75620
12	Bangalore University, Bangalore, Karnataka	130000
13	Bharathiar University, Coimbatore, Tamil Nadu	87115
14	Bharathidasan University, Tiruchirappalli, Tamil Nadu	21180
15	Bharati Vidyapeeth, Pune, Maharashtra	20215
16	Bhavnagar University, Bhavnagar, Gujarat	36213
17	Birla Institute of Technology & Science, Pilani, Rajasthan	72015
18	Burdwan University, Burdwan, West Bengal	45000
19	Central Inst.of English & Foreign Lang., Hyderabad, Andhra Pradesh	50000
20	Chatrapati Shahu Ji Maharaj University, Kanpur, Uttar Pradesh	5000
21	Cochin Uni. of Science & Technology, Cochin, Kerala	72693
22	Deendayal Upadhyay Gorakhpur University, Gorakhpur, Uttar Pradesh	15992
23	Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh	18000
24	Dibrugarh University, Dibrugarh, Assam	57466

25	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad , Maharashtra	36015
26	Dr. Bhimrao Ambedkar Agra University, Agra, Uttar Pradesh	133000
27	Gandhigram Rural Institute, Tamil Nadu	166196
28	Gauhati University, Guwahati, Assam	10000
29	Goa University, Panaji, Goa	109886
30	Gokhale Institute of Politics & Economics, Pune, Maharashtra	246000
31	Gujarat University, Ahmedabad, Gujarat	250000
32	Gujarat Vidyapith, Ahmedabad, Gujarat	441872
33	Gulbarga University, Gulbarga, Karnatak	84964
34	Guru Ghasidas University, Bilaspur, Chhattisgarh	30895
35	Guru Gobind Singh Indraprasth University, Delhi	17374
36	Guru Jambheshwar University, Hisar, Hariyana	17507
37	Guru Nanak Dev University, Amritsar, Punjab	122302
38	Gurukula Kangri Vishwavidyalaya, Haridwar, Uttaranchal	90372
39	Hemchandracharya North Gujarat University, Patan, Gujarat	28000
40	Himachal Pradesh University, Shimla, Himachal Pradesh	46582
41	Indian Institute of Technology, Roorkee, Uttarakhand	70000
42	Indira Kala Sangeet Vishwavidyalaya, Khairagarh, Chhattisgarh	13697
43	International Inst. for Pop. Sciences, Mumbai, Maharashtra	51139
44	Jadavpur University, Kolkata, West Bengal	223670
45	Jai Narayan Vyas University, Jodhpur, Rajasthan	4823
46	Jain Vishva Bharati Institute, Ladnun, Rajasthan	4715
47	Jamia Hamdard University, New Delhi	37487
48	Jamia Milia Islamia, New Delhi	64177
49	Jawaharlal Nehru University, New Delhi	311067
50	Jiwaji University, Gwalior, Madhya Pradesh	25000
51	Kakatiya University, Warangal, Andhra Pradesh	56837
52	Kameshwar Singh Darbhanga Sanskrit University, Darbhanga, Bihar	1351
53	Kannada University, Hampi, Karnataka	34877
54	Karnatak University, Dharwad, Karnataka	145111
55	Kumaun University, Nainital, Uttaranchal	5000

56	Kurukshetra University, Kurukshetra, Haryana	200000
57	Kuvempu University, Shimoga, Karnataka	46693
58	Madurai Kamraj University, Madurai, Tamil Nadu	194525
59	Maharaja Sayajirao University, Baroda, Gujarat	456046
60	Maharshi Dayanand Saraswati University, Ajmer, Rajasthan	27095
61	Mahatma Gandhi Gramoday Vishwavidyalaya, Chitrakoot, Madhya Pradesh	5000
62	Mahatma Gandhi University, Kottayam, Kerala	30000
63	Mangalore University, Mangalore, Karnataka	35649
64	Manipur University, Imphal, Manipur	64916
65	Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu	42344
66	Maulana Azad National Urdu University, Hyderabad, Andhra Pradesh	9261
67	Mizoram University, Aizwal, Mizoram	19585
68	Mohanlal Sukhadia University, Udaipur, Rajasthan	66652
69	Mother Teresa Women's University, Kodaikenal, Tamil Nadu	34113
70	Nagaland University, Kohima, Nagaland	15556
71	North Eastern Hill University, Shilong, Meghalaya	84523
72	North Maharashtra University, Jalgaon, Maharashtra	35000
73	Osmania University, Hyderabad, Andhra Pradesh	102741
74	Pandit Ravishankar Shukla University, Raipur, Chhattisgarh	156564
75	Punjab University, Chandigarh, Punjab	205168
76	Pondicherry University, Pondicherry	37174
77	Potti Sreeramulu Telugu University, Hyderabad	25936
78	Punjabi University, Patiyala, Punjab	34254
79	Rabindra Bharati University, Kolkata, West Bengal	16924
80	Rajiv Gandhi University (Arunachal Univ.), Itanagar, Arunachal Pradesh	25000
81	Rani Durgawati Vishwavidyalaya, Jabalpur, Madhya Pradesh	20000
82	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, Maharashtra	202803
83	Rashtriya Sanskrit Vidyapeetha, Tirupati, Andhra Pradesh	16690
84	Sambalpur University, Orissa	32993
85	Sampurnand Sanskrit University, Varanasi, Uttar Pradesh	10000



86	Sant Gadge Baba Amravati University, Amravati, Maharashtra	51021
87	Sardar Patel University, Vallabh Vidhyanagar, Gujarat	164472
88	Saurashtra University, Rajkot, Gujarat	20965
89	Shivaji University, Kolhapur, Maharashtra	60506
90	SNDT Women's University, Mumbai, Maharashtra	70577
91	Sri Krishnadevaraya University, Anantapur, Andhra Pradesh	35167
92	Sri Padmavati Mahila Vishwavidyalaya, Tirupati, Andhra Pradesh	37088
93	Sri Sathya Sai Inst. of Higher Learning, Andhra Pradesh	28937
94	Sri Venkateswara University, Tirupati, Andhra Pradesh	88864
95	Swami Ramanand Tirth Marathwada University, Nanded, Maharashtra	15000
96	Tamil University, Thanjavur, Tamil Nadu	7222
97	Tata Institute of Social Sciences, Mumbai, Maharashtra	56423
98	Tezpur University, Tezpur, Assam	20000
99	Thapar Inst. of eng and Technology, Patiyala, Punjab	16806
100	Tilak Maharashtra University, Pune, Maharashtra	63777
101	Tilak Manjhi Bhagalpur University, Bhagalpur, Bihar	3147
102	University of Allahabad, Allahabad, Uttar Pradesh	5300
103	University of Bundelkhand, Jhansi, Uttar Pradesh	30110
104	University of Calcutta, West Bengal	15690
105	University of Calicut, Kozhikode, Kerala	27801
106	University of Delhi, Delhi	688174
107	University of Hyderabad, Hyderabad, Andhra Pradesh	376217
108	University of Jammu, Jammu & Kashmir	15540
109	University of Kalyani, Kalyani, West Bengal	4323
110	University of Kashmir, Sri Nagar, Jammu & Kashmir	310853
111	University of Kerala, Thiruvananthapuram, Kerala	131249
112	University of Madras, Chennai, Tamil Nadu	50000
113	University of Mumbai, Mumbai, Maharashtra	827773
114	University of North Bengal, Siligudi, West Bengal	72778
115	University of Pune, Pune, Maharashtra	35592
116	Veer Narmad South Gujarat University, Surat, Gujarat	200567

117	Vidyasagar University, Mednapur, West Bengal	41320
118	Visva Bharati, Santiniketan, West Bengal	24336
119	Yashwantrao Chavan Maharashtra Open University, Nashik, Maharashtra	39475
<b>Total Records</b>		<b>1,10,67,087</b>

## Appendix VII

### No. of Records Contributed by the Participating Universities to the Serials Holdings Database

SN	University Name	No. of Records
1	Aligarh Muslim University, New Delhi	1596
2	Andhra University, Vishakhapatnam, AP	4275
3	Annamalai University, Annamalai, AP	955
4	Banaras Hindu University, Varanasi, UP	849
5	Banasthali Vidyapith, Banasthali, Rajasthan	275
6	Bangalore University, Bengaluru	225
7	Berhampur University, Berhampur, Orissa	153
8	Bharati Vidyapeeth, Pune, Maharashtra	120
9	Bhavnagar University, Bhavnagar, Gujarat	193
10	Birla Institute of Technology & Science, Pilani, Rajasthan	1577
11	Central Institute of English & Foreign Languages, Hyderabad, AP	670
12	Central Institute of Higher Tibetan Studies, Varanasi, UP	257
13	Cochin University of Science & Technology, Kochi	416
14	Deccan College Post Graduate and Research Institute, Pune, Maharashtra	316
15	Dr.B R Ambedkar Open University, Hyderabad, AP	314
16	Dr.Babasaheb Ambedkar Marathwada University , Aurangabad, Maharashtra	241
17	Dr.Bhim Rao Ambedkar University , Agra, UP	14
18	Dr.Harisingh Gour Vishwavidyalaya , Sagar, MP	193
19	Dr.Panjabrao Deshmukh Krishi Vidyapeeth, Krishi Nagar, Akola, Maharashtra	204
20	Gauhati University, Guwahati, Assam	211
21	Gujarat University, Ahmedabad, Gujarat	144
22	Gulbarga University, Gulbarga, Karnataka	775
23	Himachal Pradesh Krishi Vishwavidyalaya , Palampur, Himachal Pradesh	81
24	Himachal Pradesh University, Shimla	676
25	Indian Institute of Management, Bengaluru	1023
26	Indian Institute of Management, Indore	338
27	Indian Institute of Management, Kozhikode	346
28	Indian Institute of Management, Lucknow	867
29	Indian Institute of Technology Roorkee (University of Roorkee)	402

30	Indian Institute of Technology, Chennai	599
31	Indian School of Mines, Dhanbad, Jharkhand	281
32	Indira Gandhi Institute of Development Research, Mumbai	424
33	Indira Kala Sangit Vishwavidyalaya, Khairagarh, Chhattisgarh	110
34	International Institute for Population Sciences, Deonar, Mumbai	378
35	Jadavpur University, Jadavpur, Kolkata	1080
36	Jai Narain Vyas University, Jodhpur	54
37	Jamia Hamdard, Delhi	191
38	Jawaharlal Nehru University, New Delhi	1319
39	Kakatiya University, Kakatiya, Andhra Pradesh	142
40	Kannada University, Hampi, Karnataka	137
41	Karnatak University, Dharwad, Karnataka	327
42	Kasturba Medical College, Manipal, Karnataka	789
43	Kathmandu University, Nepal	125
44	Kurukshetra University, Kurukshetra, Haryana	1575
45	Kuvempu University, Kuvempu	332
46	Madurai Kamaraj University, Madurai, Tamil Nadu	531
47	Maharaja Sayajirao University of Baroda, Vadodara	316
48	Maharshi Dayanand Saraswati University, Ajmer, Rajasthan	72
49	Maharshi Dayanand University, Rohtak, Haryana	59
50	Mahatma Gandhi University, Kottayam, Kerala	193
51	Mangalore University, Mangalore, Karnataka	488
52	Manipal Academy of Higher Education, Manipal, Karnataka	304
53	Manipal Institute of Management, Manipal, Karnataka	22
54	Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra	931
55	Maulana Azad National Urdu University, Hyderabad	45
56	Mohanlal Sukhadia University, Udaipur, Rajasthan	316
57	Mother Teresa Women's University, Kodaikanal	124
58	Nagarjuna University, Guntur	302
59	National Law School of India University, Bengaluru	76
60	Pandit Ravishankar Shukla University, Raipur	643
61	Punjab University, Chandigarh	2738
62	Pondicherry University, Puducherry	365
63	Punjab Agricultural University, Ludhiana, Punjab	2921
64	Punjabi University, Patiala	530
65	Rabindra Bharati University, Kolkata, West Bengal	214
66	Rashtriya Sanskrit Vidyapeeth, Tirupathi	199
67	Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow	351

68	Sardar Patel Universit, Vallabh Vidyanagar, Anand	427
69	Saurashtra University, Rajkot	24
70	Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Jammu	347
71	Shreemati Nathibai Damodar Thackersey Women's University, Mumbai	101
72	Sri Venkateswara University , Tirupathi	193
73	Tata Institute of Social Sciences, Mumbai	1318
74	Tilka Manjhi Bhagalpur University, Bhagalpur, Bihar	284
75	University of Burdwan, Burdwan, West Bengal	57
76	University of Calcutta, Kolkata, West Bengal	206
77	University of Calicut, Calicut, Kerala	648
78	University of Delhi, Delhi	986
79	University of Hyderabad, Hyderabad, Andhra Pradesh	1545
80	University of Jammu, Jammu, J&K	220
81	University of Kerala, Thiruvananthapuram, Kerala	1527
82	University of Lucknow, Lucknow, Uttar Pradesh	217
83	University of Madras, Chennai, Tamil Nadu	285
84	University of Mumbai, Mumbai, Maharashtra	779
85	University of Mysore, Mysore, Karnataka	1531
86	University of North Bengal, Jalpaigudi, West Bengal	470
87	University of Pune, Pune, Maharashtra	1247
88	Visva Bharati, Shanti Niketan, West Bengal	284
89	West Bengal University of Animal & Fishery Sciences , Belgachia, Kolkata	159
<b>Total</b>		<b>50,164</b>

## Appendix VIII

### No. of Records Contributed by the Universities to the Theses Database

Sl.No	University Name	Records
1	Acharya N G Ranga Agricultural University, Nagarjunanagar, AP	209
2	Alagappa University, Karaikudi, Tamil Nadu	102
3	Aligarh Muslim University, Aligarh, Uttar Pradesh	10251
4	All India Institute of Medical Sciences, New Delhi	208
5	Amravati University (Sant Gadge Baba Amravati University), Amravati, Maharashtra	147
6	Andhra University, Vishakhapatnam, Andhra Pradesh	6037
7	Anna University, Chennai, Tamil Nadu	736
8	Annamalai University, Annamalai, Chidambaram, Tamil Nadu	2253
9	Arunachal University (Now, Rajeev Gandhi University), Doimukh, Arunachal Pradesh	62
10	Assam Agricultural University, Jorhat, Assam	82
11	Assam University, Silchar, Assam	91
12	Avinashilingam Institute for Home Science & Higher Education for Women, Coimbatore, Tamil Nadu	99
13	Awadhesh Pratap Singh Vishwavidyalaya , Rewa, MP	984
14	B N Mandal University, Madhepura, Bihar	354
15	Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur, Bihar	872
16	Babasaheb Bhimrao Ambedkar University , Lucknow, Uttar Pradesh	8
17	Banaras Hindu University, Varanasi, Uttar Pradesh	15860
18	Banasthali Vidyapith, Banasthali, Rajasthan	118
19	Bangalore University, Bengaluru, Karnataka	1562
20	Barkatullah Vishwavidyalaya , Bhopal	1002
21	Berhampur University, Berhampur, Orissa	381
22	Bengal Engineering and Science University, Howarha	4
23	Bharathiar University, Coimbatore, Tamil Nadu	68
24	Bharathidasan University, Tiruchirapalli, Tamil Nadu	125
25	Bharati Vidyapeeth, Pune, Maharashtra	10
26	Bhavnagar University, Bhavnagar, Gujarat	690
27	Bidhan Chandra Krishi Vishwavidyalaya , Nadia, West Bengal	406
28	Birla Institute of Technology, Mesra	5
29	Birla Institute of Technology & Science, Pliani, Rajasthan	224

30	Birsa Agricultural University, Ranchi, Jharkhand	89
31	Central Drugs Research Institute, Lucknow	45
32	Central Institute of English & Foreign Languages, Hyderabad	120
33	Central Institute of Fisheries Education, Mumbai	2
34	Ch.Charan Singh Haryana Agricultural University, Hissar, Haryana	1046
35	Ch.Charan Singh University, Meerut, Uttar Pradesh	1926
36	Ch.Sarwan Kumar Himachal Pradesh Krishi Vishwavidyalaya, Palampur, Himachal Pradesh	88
37	Chandra Shekhar Azad University of Agriculture & Technology, Kanpur, Uttar Pradesh	372
38	Chhatrpati Shahu Ji Maharaj Kanpur University, Kanpur, Uttar Pradesh	2252
39	Cochin University of Science & Technology, Kochi, Kerala	1004
40	Dakshina Bharat Hindi Prachar Sabha, Chennai	24
41	Dayalbagh Educational Institute, Agra, Uttar Pradesh	117
42	Deccan College Post Graduate and Research Institute, Pune, Maharashtra	46
43	Deendayal Upadhyay Gorakhpur University, Gorakhpur, Uttar Pradesh	1626
44	Defence Science Centre, Delhi	13
45	Dev Sanskriti Vishwavidyalaya, Dehradun, Uttaranchal	2
46	Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh	2317
47	Dibrugarh University, Dibrugarh, Assam	578
48	Dr.Babasaheb Ambedkar Marathwada University, Aurangabad, Uttar Pradesh	1947
49	Dr.Bhim Rao Ambedkar University, Agra, Uttar Pradesh	3675
50	Dr.Harisingh Gour Vishwavidyalaya, Sagar, Madhra Pradesh	2076
51	Dr.Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharashtra	196
52	Dr.Ram Manohar Lohia Awadh University, Faizabad, Uttar Pradesh	383
53	Dr. Y S Parmar University of Horticulture and Forestry, Solan, Himachal Pradesh	368
54	Dravidian University, Kuppam, Andhra Pradesh	1
55	Fakir Mohan University, Balasore, Orissa	8
56	Forest Research Institute, Dehradun, Uttaranchal	291
57	Gandhigram Rural Institute, Gandhigram, Tamil Nadu	178
58	Gauhati University, Guwahati, Assam	2685

59	Goa University, Goa	140
60	Gokhale Institute of Politics & Economics, Pune, Maharashtra	3
61	Govind Ballabh Pant University of Agriculture & Technology, Pant Nagar, Uttaranchal	622
62	Gujarat Agricultural University, Anand, Gujarat	152
63	Gujarat Ayurved University, Jamnagar, Gujarat	59
64	Gujarat University, Ahmedabad, Gujarat	1338
65	Gujarat Vidyapith, Ahmedabad, Gujarat	44
66	Gulbarga University, Gulbarga, Karnataka	425
67	Guru Angad Dev Veterinary and Animal Sciences University, Hissar, Haryana	5
68	Guru Ghasidas University, Bilaspur, Chhattisgarh	1577
69	Guru Jambheshwar University, Hissar, Haryana	32
70	Guru Nanak Dev University, Amritsar, Punjab	569
71	Gurukula Kangri Vishwavidyalaya, Haridwar, Uttaranchal	127
72	Hemwati Nandan Bahuguna Garhwal University, Pauri Garhwal	456
73	Himachal Pradesh Krishi Vishwavidyalaya, Palampur, Himachal Pradesh	313
74	Himachal Pradesh University, Shimla	1232
75	Indian Agricultural Research Institute, New Delhi	1997
76	Indian Institute of Science, Bengaluru	2177
77	Indian Institute of Technology Bombay, Mumbai	1160
78	Indian Institute of Technology (University of Roorkee), Roorkee, Uttar Pradesh	2514
79	Indian Institute of Technology Madras, Chennai	1958
80	Indian Institute of Technology, Delhi	2293
81	Indian Institute of Technology, Kanpur, Uttar Pradesh	1123
82	Indian Institute of Technology, Kharagpur, West Bengal	1449
83	Indian Institute of Tropical Meteorology, Pune, Maharashtra	2
84	Indian School of International Studies, New Delhi	47
85	Indian School of Mines, Dhanbad, Jharkhand	370
86	Indian Statistical Institute, Kolkata	125
87	Indian Veterinary Research Institute, Izatnagar, Uttar Pradesh	111
88	Indira Kala Sangit Vishwavidyalaya, Khairagarh, Chhattisgarh	138
89	Indian Institute of Toxicology Research (Industrial Toxicology Research Centre), Lucknow	9
90	International Institute for Population Sciences, Mumbai	119
91	Jadavpur University, Kolkata	1292



92	Jai Narain Vyas University, Jodhpur	765
93	Jai Prakash Vishwavidyalaya, Chapra, Bihar	6
94	Jain Vishva Bharati Institute, Ladnun, Rajasthan	43
95	Jamia Hamdard, Delhi	379
96	Jamia Milia Islamia, New Delhi	632
97	Jawaharlal Nehru Krishi Vishw a Vidyalaya, Jabalpur, Madhra Pradesh	204
98	Jawaharlal Nehru Institute of Postgraduate Medical Education and Research, Puducherry	2
99	Jawaharlal Nehru Technological University, Hyderabad	50
100	Jawaharlal Nehru University, New Delhi	3357
101	Jiwaji University, Gwalior, Madhya Pradesh	1322
102	Kakatiya University, Warangal, Andhra Pradesh	2428
103	Kameshwra Singh Darbhanga Sanskrit University, Darbhanga, Bihar	274
104	Kannada University, Hampi, Karnataka	118
105	Kannur University, Kannur, Kerala	14
106	Karnatak University, Dharwad, Karnataka	2060
107	Karnataka State Open University, Mysore, Karnataka	49
108	Kavikulguru Kalidas Sanskrit University, Ramtek, Nagpur, Maharashtra	2
109	Kerala Agricultural University, Ernakulam, Kerala	110
110	Konkan Krishi Vidyapeeth, Dapoli, Maharashtra	24
111	Kota Open University (Vardhaman Mahaveer University), Kota, Rajasthan	44
111	Kumaun University, Nainital, Uttaranchal	1035
112	Kurukshetra University, Kurukshetra, Haryana	4356
113	Kuvempu University, Karnataka	543
114	Lalit Narayan Mithila University, Darbhanga, Bihar	178
115	Laxmibai National Institute of Physical Education, Gwalior, Madhya Pradesh	4
116	M J P Rohilkhand University, Bareilly, Uttar Pradesh	1579
117	Madhya Pradesh Bhoj (Open)University, Bhopal	5
118	Madurai Kamaraj University, Madurai, Tamil Nadu	953
119	Magadh University, Bodhgaya, Bihar	1118
120	Maharaja Sayajirao University of Baroda, Vadodara	1826
121	Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan	137
122	Maharashtra Animal and Fishery Sciences University, Mumbai	3
123	Maharshi Dayanand Saraswati University, Ajmer, Rajasthan	52
124	Maharshi Dayanand University, Rohtak, Haryana	1532

125	Maharshi Mahesh Yogi Vedic University, Noida, Uttar Pradesh	2
126	Mahatma Gandhi Kashi Vidyapeeth, Varanasi, Uttar Pradesh	142
127	Mahatma Gandhi University, Kottayam, Kerala	12
128	Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra	401
129	Makhanlal Chaturvedi National University of Journalism, Bhopal	4
130	Mangalore University, Mangalore, Karnataka	56
131	Manipal Academy of Higher Education, Manipal, Karnataka	8
132	Manipal University, Manipal, Karnataka	4
133	Manipur University, Imphal, Manipur	950
134	Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu	85
135	Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra	485
136	Mizoram University, Aizwal	29
137	Mohanlal Sukhadia University, Udaipur, Rajasthan	804
138	Mother Teresa Women's University, Kodaikanal	7
139	Nagaland University, Kohima, Nagaland	30
140	Nagarjuna University (Acharya Nagarjuna University), Guntur	612
141	Nagpur University, Nagpur, Maharashtra	10259
142	Narendra Deva University of Agriculture & Technology, Faizabad, Uttar Pradesh	118
143	National Botanical Research Institute, Lucknow	3
144	National Brain Research Centre, Manesar, Gurgaon, Haryana	3
145	National Chemical Laboratory, Pune, Maharashtra	16
146	National Dairy Research Institute, Karnal, Haryana	170
147	National Institute of Mental Health & Neuro Sciences, Bengaluru	193
148	National Institute of Pharmaceutical Education and Research, Hyderabad	64
149	Visvesvaraya National Institute of Technology, Nagpur, Maharashtra	23
150	National Institute of Technology, Warangal	5
151	National Institute of Technology, Rourkela	3
152	National Institute of Technology, Silchar, Assam	9
153	National Sugar Institute, Kanpur, Uttar Pradesh	3
154	North Eastern Hill University, Shilong	978
155	North Gujarat University (Hemchandracharya North Gujarat University), Patan, Gujarat	200

156	North Maharashtra University, Jalgaon, Maharashtra	237
157	North Orissa University, Mayurbhanj, Orissa	6
158	Orissa University of Agriculture and Technology , Bhubaneswar, Orissa	94
159	Osmania University, Hyderabad, Andhra Pradesh	7340
160	Pandit Ravishankar Shukla University, Raipur, Chhattisgarh	1008
161	Punjab Agriculture University, Ludhiana, Punjab	1676
162	Panjab University, Chandigarh	3373
163	Patna University, Patna, Bihar	727
164	Pondicherry University, Pondicherry	28
165	Postgraduate Institute of Medical Education and Research, Chandigarh	305
166	Potti Sriramulu Telugu University, Hyderabad	155
167	Punjab Agricultural University, Ludhiana	1624
168	Punjabi University, Patiala, Punjab	985
169	Rabindra Bharati University, Howrah, West Bengal	432
170	Rajasthan Agriculture University, Bikaner, Rajasthan	167
171	Rajendra Agricultural University, Samastipur, Bihar	166
172	Rajiv Gandhi Proudhyogiki Vishwavidyalaya, Bhopal	35
173	Raman Research Institute, Bengaluru	3
174	Ranchi University, Ranchi, Bihar	336
175	Rani Durgavati Vishwavidyalaya, Jabalpur	1846
176	Rashtriya Sanskrit Sansthan, Janakpuri, New Delhi	35
177	Rashtriya Sanskrit Vidyapeeth, Tirupathi, Tamil Nadu	81
178	Sambalpur University, Sambalpur, Orissa	888
179	Sampurnanand Sanskrit Vishwavidyalaya, Varanasi, UP	80
180	Sardar Patel University, Vallabh Vidyanagar, Anand	919
181	Satyabhama University (Satyabhama Institute of Science and Technology), Chennai	2
182	Saurashtra University, Rajkot, Gujarat	920
183	School of Planning & Architect, Indraprastha Estate, New Delhi	1
184	Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Jammu	38
185	Shivaji University, Kolhapur, Maharashtra	1192
186	Shreemati Nathibai Damodar Thackersey Women's University, Mumbai	705
187	Shri Jagannath Sanskrit Visvavidyalaya, Puri, Orissa	72
188	Siddhu Kanhu University, Dumka, Jharkhand	2
189	Sikkim-Manipal University of Health, Medical & Technological Sciences, Gangtok, Sikkim	4
190	South Gujarat University (Veer Narmad South Gujarat University), Surat, Gujarat	231

191	Sree Chitra Tirunal Institute for Medical Sciences and Technology, Travancore, Kerala	7
192	Sree Sankaracharya University of Sanskrit, Kalady, Kerala	4
193	Sri Krishnadevaraya University, Anantapur, Andhra Pradesh	347
194	Sri Padmavati Mahila Visvavidyalayam, Tirupathi, Andhra Pradesh	29
195	Sri Sathya Sai University (Sri Sathya Sai Institute of Higher Learning), Anantapur, Andhra Pradesh	31
196	Sri Venkateswara University, Tirupathi, Andhra Pradesh	2524
197	Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra	475
198	Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu	405
199	Tamil Nadu Dr M G R Medical University, Anna Salai, Chennai	3
200	Tamil Nadu Veterinary and Animal Sciences University, Chennai	151
201	Tata Institute of Fundamental Research, Mumbai	20
202	Tata Institute of Social Sciences, Mumbai	61
203	Tezpur University, Tezpur, Assam	54
204	Thapar Institute of Engineering and Technology, Patiala, Punjab	22
205	Tilak Maharashtra Vidyapeeth, Pune, Maharashtra	5
206	Tilka Manjhi Bhagalpur University, Bhagalpur, Bihar	420
207	Tripura University, Suryamaninagar, Tripura	34
208	University of Agricultural Sciences, Bengaluru	329
209	University of Agricultural Sciences, Dharwad, Karnataka	26
210	University of Allahabad, Allahabad, Uttar Pradesh	1947
211	University of Bundelkhand, Bundelkhand, Uttar Pradesh	352
212	University of Burdwan, Burdwan, West Bengal	1629
213	University of Calcutta, Kolkata, West Bengal	8520
214	University of Calicut, Calicut, Kerala	891
215	University of Delhi, Delhi	17100
216	University of Hyderabad, Hyderabad, Andhra Pradesh	499
217	University of Jammu, Jammu, J&K	860
218	University of Kalyani, Kalyani, West Bengal	354
219	University of Kashmir, Kashmir, J&K	357
220	University of Kerala, Thiruvananthapuram, Kerala	1454
221	University of Lucknow, Lucknow, Uttar Pradesh	2622
222	University of Madras, Chennai, Tamil Nadu	3949
223	University of Mumbai, Mumbai, Maharashtra	6014
224	University of Mysore, Mysore, Karnataka	1049

225	University of North Bengal, Jalpaigurdi, West Bengal	788
226	University of Pune, Pune, Maharashtra	3135
227	University of Rajasthan, Jaipur, Rajasthan	2359
228	Utkal University, Bhubneswar, Orissa	1786
229	Utkal University of Culture, Bhubneswar, Orissa	1
230	Uttar Pradesh Technical University, Lucknow, Uttar Pradesh	44
231	Veer Kunwar Singh University, Ara, Bihar	59
232	Vellore Institute of Technology, Vellore, Tamil Nadu	9
233	Vidyasagar University, Vidyasagar, West Bengal	155
234	Vikram University, Ujjain, Madhya Pradesh	1941
235	Vinoba Bhave University, Hazaribag, Jharkhand	285
236	Visva Bharati University, Shanti Niketan, West Bengal	548
237	Yashwantrao Chavan Maharashtra Open University, Nashik, Maharashtra	47
<b>Total</b>		<b>2,20,206</b>

## State-Wise list of the SOUL Installation

Sr No.	Name of the State	Installation	1 <sup>st</sup> April, 08 to 31 <sup>st</sup> March, 09	Total
1	Jammu & Kashmir	45	1	46
2	Himachal Pradesh	13		13
3	Punjab	81	29	110
4	Haryana	30		30
5	Uttaranchal	14		14
6	New Delhi	15	12	27
7	Uttar Pradesh	31	2	33
8	Rajasthan	37	1	38
9	Gujarat	349	113	462
10	Daman	2		2
11	Madhya Pradesh	132	6	138
12	Bihar	9		9
13	Chhattisgarh	9	1	10
14	Jharkhand	2	1	3
15	Maharashtra	228	16	244
16	Goa	1		1
17	Andhra Pradesh	185	13	198
18	Karnataka	25		25
19	Kerala	96	9	105
20	Tamil Nadu	22	4	26
21	Pondicherry	3		3
22	Orissa	7		7
23	West Bengal	54	14	68
24	North Eastern States	146		146
25	Assam (Paid)		5	5
26	Nepal			
	<b>Total</b>	<b>1538</b>	<b>227</b>	<b>1765</b>

## Appendix X

### Universities that are Provided Internet Bandwidth under the UGC-Infonet Connectivity Programme

Sl. No.	Name of the University	Connectivity Status
1	Acharya Nagarjuna University, Nagarjunanagar, AP	SCPC 1 Mbps
2	Alagappa University, Karaikudi, Tamil Nadu	LL-2 Mbps (1:1)
3	Aligarh Muslim University, Aligarh, Uttar Pradesh	LL-2 Mbps (1:1)
4	Andhra University, Visakhapatnam, Andhra Pradesh	LL-2 Mbps (1:1)
5	Anna University, Chennai, Tamil Nadu	LL-2 Mbps (1:1)
6	Annamalai University, Chennai, Tamil Nadu	LL-2 Mbps (1:1)
7	Assam University, Silchar, Assam	LL-2 Mbps (1:1)
8	Avinashilingam Institute of Home Science & Higher Education for Women, Coimbatore, Tamil Nadu	LL-2 Mbps (1:1)
9	Awadhesh Pratap Singh University, Rewa, Madhya Pradesh	BB VSAT -256 Kbps
10	B.N. Mandel University, Madhepura, Bihar	LL-2 Mbps (1:1)
11	Babasaheb Bimrao Ambedkar Bihar University, Muzaffarpur, Bihar	BB VSAT -256 Kbps
12	Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh	LL-2 Mbps (1:1)
13	Banaras Hindu University, Varanasi, Uttar Pradesh	LL-2 Mbps (1:1)
14	Banasthali Vidyapith, Banasthali, Rajasthan	LL-2 Mbps (1:1)
15	Bangalore University, Bengaluru, Karnataka	LL-2 Mbps (1:1)
16	Barkatullah Vishwavidyalaya, Bhopal, Madhya Pradesh	LL-2 Mbps (1:1)
17	Bengal Engineering & Science University, Howrah, West Bengal	LL-2 Mbps (1:1)
18	Berhampur University, Behrampur, Orissa	BB VSAT -256 Kbps
19	Bharathiar University, Coimbatore, Tamil Nadu	SCPC-512 Kbps
20	Bharati Vidyapeeth, Pune, Maharashtra	LL-2 Mbps (1:1)
21	Bharathidasan University, Tiruchirapalli, Tamil Nadu	LL-2 Mbps (1:1)
22	Bhavnagar University, Bhavnagar, Gujarat	BB VSAT -256 Kbps
23	Birla Institute of Technology & Science, Pilani, Rajasthan	LL-2 Mbps (1:1)
24	Birla Institute of Technology, Ranchi, Jharkhand	LL-2 Mbps (1:1)
25	Bundelkhand University, Jhansi, Uttar Pradesh	LL-2 Mbps (1:1)
26	Central Institute of English & Foreign Languages University (CIEFL), Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)
27	Central Institute of Higher Tibetan Studies, Varanasi, Uttar Pradesh	SCPC-512 Kbps
28	Chaudhary Charan Singh University, Meerut, Uttar Pradesh	LL-2 Mbps (1:1)
29	Chhatrapati Shahu Ji Maharaj University, Kanpur, UP	LL-2 Mbps (1:1)
30	Cochin University of Science & Technology, Kochi, Kerala	LL-1 Mbps (1:1)

31	Dayalbagh Educational Institute, Agra, Uttar Pradesh	LL-2 Mbps (1:1)
32	Deccan College Post Graduate & Research Institute, Pune, Maharashtra	LL-2 Mbps (1:1)
33	Devi Ahilya Vishwavidyalaya, Indore, MP	LL-2 Mbps (1:1)
34	Dibrugarh University, Dibrugarh, Assam	LL-2 Mbps (1:1)
35	Dr. Babasaheb A. M. University, Aurangabad, Maharashtra	LL-2 Mbps (1:1)
36	Dr. Babasaheb Ambedkar Technology University, Lonere, Maharashtra	LL-2 Mbps (1:1)
37	Dr. Bhim Rao Ambedkar University, Paliwal Park Campus, Agra, Uttar Pradesh	LL-2 Mbps (1:1)
38	Dr. Ram Manohar Lohia Avadh University, Faizabad, Uttar Pradesh	BB VSAT -256 Kbps
39	Dr. Harisingh Gour Vishwavidhlaya, Sagar, Madhya Pradesh	BB VSAT -256 Kbps
40	Gauhati University, Gauhati, Assam	LL-2 Mbps (1:1)
41	Gandhigram Rural Institute, Gandhigram, Tamil Nadu	LL-2 Mbps (1:1)
42	Goa University, Taleigao Plateau, Goa	LL-2 Mbps (1:1)
43	Gokhale Institute of Politics & Economics, Pune, Maharashtra	LL-2 Mbps(1:1)
44	Gujarat University, Ahmedabad, Gujarat	SCPC-512 Kbps
45	Gujarat Vidyapith, Ahmedabad, Gujarat	LL-2 Mbps (1:1)
46	Gulbarga University, Gulbarga, Karnataka	LL-2 Mbps (1:1)
47	Guru Ghasidas University, Bilaspur, Chhattisgarh	LL-2 Mbps (1:1)
48	Guru Gobind Singh Indraprastha University, Delhi	LL-2 Mbps(1:1)
49	Guru Jambheshwar University, Hisar, Haryana	SCPC-256 Kbps
50	Guru Nanak Dev University, Amritsar, Punjab	LL-2 Mbps (1:1)
51	Gurukula Kangri Vishwavidyalay, Hardwar, Uttaranchal	LL-2 Mbps (1:1)
52	Hemchandraacharya North Gujarat University, Patan, Gujarat	LL-2 Mbps (1:1)
53	Hemwati Nandan Bahuguna Garhwal University, Srinagar, Uttaranchal	LL-2 Mbps (1:1)
54	Himachal Pradesh University, Shimla, Himachal Pradesh	LL-2 Mbps (1:1)
55	Indira Kala Sangeet Vishwavidyalaya, Khairagarh, Chhattisgarh	BB VSAT -256 Kbps
56	Jadavpur University, Kolkata, West Bengal	LL-2 Mbps (1:1)
57	Jai Narain Vyas University, Jodhpur, Rajasthan	LL-2 Mbps (1:1)
58	Jain Vishwa Bharati Institute, Ladnun, Rajasthan	LL-2 Mbps (1:1)
59	Jamia Hamdard University, New Delhi	LL-2 Mbps (1:1)
60	Jamia Milia Islamia University, Delhi	LL-2 Mbps (1:1)
61	Jawaharlal Nehru Technological University, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)
62	Jawaharlal Nehru University, New Delhi	LL-2 Mbps (1:1)
63	Jiwaji University, Gwalior, Madhya Pradesh	LL-2 Mbps (1:1)
64	Kakatiya University, Warangal, Andhra Pradesh	BB VSAT -512 Kbps
65	Kalyani University, Kalyani, West Bengal	LL-2 Mbps (1:1)



66	Kameshwara Singh Darbhanga Sanskrit University, Darbhanga, Bihar	BB VSAT -256 Kbps
67	Kannada University, Distt. Bellary, Karnataka	LL-2 Mbps (1:1)
68	Kannur University, Kannur, Kerala	LL-2 Mbps (1:1)
69	Karnatak University, Dharwad, Karnataka	LL-2 Mbps (1:1)
70	Kumaun University, Nainital, Uttaranchal	LL-2 Mbps (1:1)
71	Kurukshetra University, Kurukshetra, Haryana	LL-2 Mbps (1:1)
72	Kuvempu University, Dist-Shimoga, Karnataka	LL-2 Mbps (1:1)
73	Lalit Narayan Mithila University, Darbhanga, Bihar	BB VSAT -256 Kbps
74	Madurai Kamraj University, Madurai, Tamil Nadu	SCPC-512 Kbps
75	Magadh University, Bodhgaya, Bihar	BB VSAT -256 Kbps
76	Maharaja Sayajirao University of Baroda, Vadodara, Gujarat	LL-2 Mbps (1:1)
77	Maharishi Dayand Saraswati University, Ajmer, Rajasthan	BB VSAT -256 Kbps
78	Maharishi Dayanand University, Rohtak, Haryana	LL-2 Mbps (1:1)
79	Mahatma Gandhi Antarrashtriya Hindi Vishwavidyalaya, Wardha, Maharashtra	LL-2 Mbps (1:1)
80	Mahatma Gandhi Chitrakoot Gramoday Vishwavidyalaya, Chitrakoot, Madhya Pradesh	LL-2 Mbps (1:1)
81	Mahatma Gandhi Kashi Vidyapeeth, Varanasi, Uttar Pradesh	LL-2 Mbps (1:1)
82	Mahatma Gandhi University, Kottayam, Kerala	LL-1 Mbps (1:1)
83	Mangalore University, Mangalore, Karnataka	LL-2 Mbps (1:1)
84	Manipur University, Imphal, Manipur	LL-2 Mbps (1:1)
85	Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu	LL-2 Mbps (1:1)
86	Maulana Azad National Urdu University, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)
87	Mizoram University, Aizwal, Mizoram	LL-2 Mbps (1:1)
88	MJP Rohilkhand University, Bareilly, Uttar Pradesh	LL- 2 Mbps (1:1)
89	Mohanlal Sukhadia University, Udaipur, Rajasthan	LL- 2 Mbps (1:1)
90	Mother Teresa Women 's University, Kodaikanal, Tamil Nadu	LL- 2 Mbps (1:1)
91	Nagaland University, Kohima, Nagaland	LL-2 Mbps (1:1)
92	National Law School of India University, Bangalore, Karnataka	LL-2 Mbps (1:1)
93	North Eastern Hill University, Shillong, Meghalaya	LL-2 Mbps (1:1)
94	North Maharashtra University, Jalgaon, Maharashtra	LL- 2 Mbps (1:1)
95	Osmania University, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)
96	Panjab University, Chandigarh, Punjab	LL- 2 Mbps (1:1)
97	Pandit Ravishankar Shukla, Raipur, Chhattisgarh	LL- 2 Mbps (1:1)
98	Patna University, Patna, Bihar	BB VSAT -256 Kbps
99	Periyar University, Salem, Tamil Nadu	LL- 2 Mbps (1:1)
100	Pondicherry University, Puducherry	LL-2 Mbps (1:1)
101	Potti Sreeramulu Telugu University, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)
102	Punjabi University, Patiala, Punjab	BB VSAT -256 Kbps

103	Rabindra Bharati University, Kolkata, West Bengal	LL-2 Mbps (1:1)
104	Rajasthan Vidyapith, Udaipur, Rajasthan	BB VSAT -256 Kbps
105	Rajiv Gandhi University, Itanagar, Arunachal Pradesh	LL- 2 Mbps (1:1)
106	Ranchi University, Ranchi, Jharkhand	LL-2 Mbps (1:1)
107	Rani Durgavati Vishwavidyalaya, Jabalpur, M P	LL-2 Mbps (1:1)
108	Rashtrasant Tukadoji Maharaja University, Nagpur, Maharashtra	SCPC 512 Kbps
109	Rashtriya Sanskrit Vidyapeeth, Tirupati, Andhra Pradesh	LL- 2 Mbps (1:1)
110	Sambalpur University, Sambalpur, Orissa	BB VSAT -256 Kbps
111	Sampurnanand Sanskrit Vishwavidyalaya, Varanasi, Uttar Pradesh	LL-2 Mbps (1:1)
112	Sant Gadge Baba Amravati University, Amravati, Maharashtra	BBVAST 256 Kbps
113	Sardar Patel University, Vallabh Vidyanagar, Anand	LL-2 Mbps (1:1)
114	Saurashtra University, Rajkot, Gujarat	LL-2 Mbps (1:1)
115	Shivaji University, Kolhapur, Maharashtra	LL- 2 Mbps (1:1)
116	Shri Jagannath Sanskrit Viswavidyalaya, Puri, Orissa	BB VSAT -256 Kbps
117	Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeeth, New Delhi	LL-2 Mbps (1:1)
118	Shri Padmavati Mahila Vishwavidyalaym, Chittoor, Andhra Pradesh	LL-2 Mbps (1:1)
119	Sikkim University, Gangtok, Sikkim	LL-2 Mbps (1:1)
120	SNDT Women's University, Mumbai, Maharashtra	LL-2 Mbps (1:1)
121	Sree Sankaracharya University of Sanskrit, Ernakulam, Kerala	LL-2 Mbps (1:1)
122	Sri Chandresekharendra Sarswati Viswa Mahavidyalaya, Kancheepuram, Tamil Nadu	LL-2 Mbps (1:1)
123	Sri Krishnadevaraya University, Anantapur, Andhra Pradesh	LL-2 Mbps (1:1)
124	Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh	LL-2 Mbps (1:1)
125	Sri Venkateswara University, Tirupati, Andhra Pradesh	LL-2 Mbps (1:1)
126	Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra	LL-2 Mbps (1:1)
127	Tamil University, Thanjavur, Tamil Nadu	BB VSAT -256 Kbps
128	Tata Institute of Social Sciences, Mumbai, Maharashtra	LL-2 Mbps (1:1)
129	Tezpur University, Tezpur, Assam	LL-2 Mbps (1:1)
130	Thapar University, Patiala, Punjab	LL-2 Mbps (1:1)
131	Tilak Maharashtra Vidyapeeth Bhavan, Pune, Maharashtra	LL-2 Mbps(1:1)
132	Tilka Manjhi Bhagalpur University, Bhagalpur, Bihar	BB VSAT -256 Kbps
133	Tripura University, Agartala, Tripura	LL-2 Mbps (1:1)
134	University of Allahabad, Allahabad, Uttar Pradesh	LL-2 Mbps (1:1)
135	University of Burdwan, Burdwan, West Bengal	LL-2 Mbps (1:1)
136	University of Calcutta, Kolkata, West Bengal	LL-2 Mbps (1:1)
137	University of Calicut, Kozhikode, Kerala	LL-2 Mbps (1:1)

138	University of Delhi, Delhi	LL-2 Mbps (1:1)
139	University of Hyderabad, Hyderabad, Andhra Pradesh	LL-2 Mbps (1:1)
140	University of Jammu, Jammu, Jammu and Kashmir	LL-2 Mbps (1:1)
141	University of Kashmir, Srinagar, Jammu and Kashmir	SCPC-1 Mbps
142	University of Kerala, Thiruvananthapuram, Kerala	LL-2 Mbps (1:1)
143	University of Lucknow, Lucknow, Uttar Pradesh	LL-2 Mbps (1:1)
144	University of Madras, Chennai, Tamil Nadu	LL-2 Mbps (1:1)
145	University of Mumbai, Mumbai, Maharashtra	LL-2 Mbps (1:1)
146	University of Mysore, Mysore, Karnataka	LL-2 Mbps (1:1)
147	University of North Bengal, Darjeeling, West Bengal	LL-2 Mbps (1:1)
148	University of Pune, Pune, Maharashtra	LL-2 Mbps (1:1)
149	University of Rajasthan, Jaipur, Rajasthan	LL-2 Mbps (1:1)
150	Utkal University, Bhubaneswar, Orissa	LL-2 Mbps (1:1)
151	V B S Purvanchal University, Jaunpur, Uttar Pradesh	BB VSAT -256 Kbps
152	Veer Narmad South Gujarat University, Surat, Gujarat	LL-2 Mbps (1:1)
153	Vidyasagar University, Midnapore, West Bengal	LL-2 Mbps (1:1)
154	Vikram University, Ujjain, Madhya Pradesh	LL-2 Mbps (1:1)
155	Vinoba Bhave University, Hazaribag, Jharkhand	LL-2 Mbps (1:1)
156	VisvaBharati, Shantiniketan, West Bengal	LL-2 Mbps (1:1)
157	Yashwant Rao Chavan Maharashtra Open University, Nashik, Maharashtra	LL-2 Mbps (1:1)

#### **Inter University Centres (IUCs) of University Grants Commission**

<b>Sr. No.</b>	<b>Name of IUC</b>	<b>Connectivity</b>
1	Information and Library Network Centre	LL-2 Mbps (1:1)
2	Inter University Accelerator Centre (Formerly Nuclear Science Centre), New Delhi	RL-512 Kbps (1:3)
3	Inter University Centre for Astronomy & Astrophysics, Pune, Maharashtra	LL-2 Mbps (1:1)
4	Consortium for Educational Communication, New Delhi	LL-2 Mbps (1:1)
5	UGC-DAE Consortium for Scientific Research, Indore, Madhya Pradesh	LL-512 Kbps (1:3)

#### **Universities proposed to be included**

<b>Sr. No.</b>	<b>Name of University</b>	<b>Connectivity</b>
1	Deendayal Upadhyaya Gorakhpur University, Gorakhpur, UP	LL-2 Mbps (1:1)
2	The Tamilnadu Dr. Ambedkar Law University Poompozhi, Chennai, Tamilnadu	LL-2 Mbps (1:1)
3	The WB National University of Juridical Sciences, Kolkata, West Bengal	LL-2 Mbps (1:1)
4	West Bengal University of Technology, Kolkata, West Bengal	LL-2 Mbps (1:1)

**Appendix - XI**

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

<b>Sl. No</b>	<b>Publisher</b>	<b>URL</b>	<b>No. of Journals</b>
1	American Chemical Society	<a href="http://www.pubs.acs.org/">http://www.pubs.acs.org/</a>	37
2	American Institute of Physics	<a href="http://www.aip.org/">http://www.aip.org/</a>	18
3	American Physical Society	<a href="http://www.aps.org/">http://www.aps.org/</a>	10
4	Annual Reviews	<a href="http://arjournals.annualreviews.org">http://arjournals.annualreviews.org</a>	33
5	Blackwell Publishing	<a href="http://www3.interscience.wiley.com/">http://www3.interscience.wiley.com/</a>	489
6	Cambridge University Press	<a href="http://journals.cambridge.org/">http://journals.cambridge.org/</a>	224
7	Elsevier Science	<a href="http://www.sciencedirect.com/">http://www.sciencedirect.com/</a>	34
8	Emerald	<a href="http://www.emeraldinsight.com/">http://www.emeraldinsight.com/</a>	29
9	Institute of Physics	<a href="http://www.iop.org/EJ">http://www.iop.org/EJ</a>	46
10	ISID	<a href="http://isid.org.in/">http://isid.org.in/</a>	Database
11	JCCC	<a href="http://www.jccc-ugcinfonet.in/">http://www.jccc-ugcinfonet.in/</a>	Portal
12	JSTOR	<a href="http://www.jstor.org/">http://www.jstor.org/</a>	1401
13	MathSciNet	<a href="http://www.ams.org/mathscinet">http://www.ams.org/mathscinet</a>	Database
14	Nature	<a href="http://www.nature.com/">http://www.nature.com/</a>	One
15	Oxford University Press	<a href="http://www.oxfordjournals.org">http://www.oxfordjournals.org</a>	206
16	Portland Press	<a href="http://www.portlandpress.com/pp/default.htm">http://www.portlandpress.com/pp/default.htm</a>	8
17	Project Euclid	<a href="http://projecteuclid.org">http://projecteuclid.org</a>	23
18	Project Muse	<a href="http://muse.jhu.edu/journals">http://muse.jhu.edu/journals</a>	411
19	Royal Society of Chemistry	<a href="http://www.rsc.org/">http://www.rsc.org/</a>	29 + 6 Databases
20	SciFinder Scholar	<a href="http://www.cas.org/products/sfacad/index.html">http://www.cas.org/products/sfacad/index.html</a>	Database
21	SIAM	<a href="http://epubs.siam.org/">http://epubs.siam.org/</a>	14
22	Springer Link	<a href="http://www.springerlink.com/">http://www.springerlink.com/</a>	1389
23	Taylor & Francis	<a href="http://www.informaworld.com/">http://www.informaworld.com/</a>	1365

## Appendix - XII

**D. H. RAMANI & COMPANYS**  
**CHARTERED ACCOUNTANTS**

201, "SAUMYA" Complex,  
 5-Kalpna Society,  
 B/h. Navrangpura Post Office,  
 Ahmedabad - 380 009.  
 Telephone No.:66614579

### Information and Library Network Centre

(An Autonomous Inter-University Centre of UGC)  
 Ahmedabad - 380 009

#### **BALANCE SHEET AS AT 31<sup>st</sup> MARCH, 2009**

	Schedule No.	F.Y. 2008 -2009 (Current Year)	F.Y. 2007 -2008 (Previous Year)
<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>			
TRUST'S FUNDS OR CORPUS INCOME & EXPNDITURE A/C.	01	18,88,03,944.39	14,48,43,170.39
OTHER EARMARKED FUNDS	02	5,76,41,164.00	34,75,27,456.00
CURRENT LIABILITIES	03	22,27,301.00	5,03,879.00
		<b>24,86,72,409.39</b>	<b>49,28,74,505.39</b>
<b>ASSETS</b>			
FIXED ASSETS	04	5,39,30,972.00	4,89,52,728.00
INVESTMENT - FROM EARMARKED/ENDOWMENT FUNDS	05	17,74,37,863.70	43,62,84,129.70
CURRENT ASSETS	06	1,68,29,495.69	71,63,969.69
SUNDRY DEPOSITS	07	4,74,078.00	4,73,678.00
		<b>24,86,72,409.39</b>	<b>49,28,74,505.39</b>
<b>TOTAL :</b>			

As per our report of even date attached.

For D. H. Ramani & Co.

Chartered Accountants

Sd/-  
 [ D. H. Ramani ]  
 Proprietor

Place : Ahmedabad  
 Date : 29.09.2009

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

Sd/-  
 [Dr. Jagdish Arora ]  
 Director  
 Place : Ahmedabad  
 Date : 29.09.2009

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.

**D. H. RAMANI & COMPANY**  
CHARTERED ACCOUNTANTS

201, "SAUMYA" Complex,  
5-Kalpana Society,  
B/h. Navrangpura Post Office,  
Ahmedabad - 380 009.  
Telephone No.:66614579

**Information and Library Network Centre**  
(An Autonomous Inter-University Centre of UGC)  
Ahmedabad - 380 009

**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31<sup>st</sup> MARCH, 2009**

	Schedule No.	F.Y. 2008 -2009 (Current Year)	F.Y. 2007 -2008 (Previous Year)	(Amount - Rs.)
<b>INCOME</b>				
GRANTS-IN-AIDS RECEIVED FROM U.G.C., NEW DELHI	08	5,30,00,000.00	1,95,00,000.00	
ADDITIONAL GRANTS EARNED AS INTEREST ON INVESTMENTS	09	1,08,28,606.00	1,27,70,641.00	
MISCELLANEOUS INCOME		21,43,581.00	80,65,273.00	
<b>TOTAL (A) :</b>		<b>6,59,72,187.00</b>	<b>4,03,35,914.00</b>	
<b>EXPENDITURE</b>				
EXPENDITURE IN RESPECT OF PROPERTIES	10	50,597.00	75,326.00	
EXPENDITURE ON THE OBJECT OF THE TRUST	11	2,19,40,816.00	1,68,02,569.00	
AUDIT FEES		20,000.00	20,000.00	
<b>TOTAL (B) :</b>		<b>2,20,11,413.00</b>	<b>1,68,97,895.00</b>	
<b>BALANCE BEING EXCESS OF INCOME OVER EXPENDITURE (A -B)</b>		<b>4,39,60,774.00</b>	<b>2,34,38,019.00</b>	
<b>TOTAL :</b>		<b>6,59,72,187.00</b>	<b>4,03,35,914.00</b>	

As per our report of even date attached.

For D. H. Ramani & Co.  
Chartered Accountants

Sd/-  
[ D. H. Ramani ]  
Proprietor

Place : Ahmedabad  
Date : 29.09.2009

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

Place : Ahmedabad  
Date : 29.09.2009

Sd/-  
[Dr. Jagdish Arora ]  
Director

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2009**

	(Amount – Rs.)	
	F.Y. 2008 -2009 (Current Year)	F.Y. 2007 -2008 (Previous Year)
<b>SCHEDULE - 1 CORPUS/CAPITAL FUND :</b>		
Balance as at beginning of the year	14,48,43,170.39	12,14,05,151.39
Add : Balance of net income transferred from the Income & Expenditure Account.	4,39,60,774.00	2,34,38,019.00
<b>BALANCE AS AT YEAR – END</b>	<b>18,88,03,944.39</b>	<b>14,48,43,170.39</b>

	FUNDS-WISE BREAK UP					TOTALS
	Networking Grants-in-Aids	UGC-INFONET Grants-in-Aids	E-Subscription Grants-in-Aids	North Eastern Region	F.Y.2008 -2009 (Current Year)	F.Y.2007 -2008 (Previous Year)
<b>SCHEDULE - 2 EARMARKED FUNDS :</b>						
Opening balance of the funds	50,00,000.00	9,78,08,537.00	21,76,00,423.00	2,71,18,496.00	34,75,27,456.00	10,91,94,252.00
Add : Grant received during the year	Nil	10,00,00,000.00	47,00,00,000.00	Nil	57,00,00,000.00	78,16,64,000.00
Less : Grant Utilized during the year	Nil	17,27,00,824.00	68,65,76,458.00	6,09,010.00	85,98,86,292.00	54,33,30,796.00
<b>BALANCE AS AT YEAR – END</b>	<b>50,00,000.00</b>	<b>25,107,713.00</b>	<b>10,23,965.00</b>	<b>2,65,09,486.00</b>	<b>5,76,41,164.00</b>	<b>34,75,27,456.00</b>

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2009**

	F.Y. 2008-2009 (Current Year)			F.Y. 2007-2008 (Previous Year)			(Amount - Rs.)
	Opening Balance	Addition / Deductions During the year	Closing Balance	Opening Balance	Addition / Deductions During the year	Closing Balance	
<b>SCHEDULE - 4</b>							
<b>FIXED ASSETS (AT COST) :</b>							
1. Office Equipment	21,76,183.00	3,45,711.00	25,21,894.00	18,79,843.00	2,96,340.00	21,76,183.00	
2. Computer	3,09,16,155.00	31,57,403.00	3,40,73,558.00	2,91,58,615.00	17,57,540.00	3,09,16,155.00	
3. Computer Software	28,40,289.00	2,10,929.00	30,51,218.00	27,42,379.00	97,910.00	28,40,289.00	
4. Databases	28,85,851.00	Nil	28,85,851.00	28,85,851.00	Nil	28,85,851.00	
5. Furniture & Fixtures	30,27,997.00	1,93,230.00	32,21,227.00	27,76,088.00	2,51,909.00	30,27,997.00	
6. Canteen Dead Stock	1,600.00	Nil	1,600.00	1,600.00	Nil	1,600.00	
7. Books and Journals	11,12,359.00	1,60,744.00	12,73,103.00	10,85,129.00	(+) 29,678.00 (-) 2,448.00	11,12,359.00	
8. Electrical Fitting & Fixture	48,485.00	Nil	48,485.00	42,205.00	6,280.00	48,485.00	
9. Scientific Equipment	41,76,520.00	1,66,007.00	43,42,527.00	41,32,780.00	43,740.00	41,76,520.00	
10. Hostel Dead Stock	1,66,708.00	Nil	1,66,708.00	1,66,708.00	Nil	1,66,708.00	
11. VSAT	10,00,000.00	Nil	10,00,000.00	10,00,000.00	Nil	10,00,000.00	
12. 64 KBPS Radiolink	6,00,581.00	Nil	6,00,581.00	6,00,581.00	Nil	6,00,581.00	
13. Vehicle - Car	0.00	7,44,220.00	7,44,220.00	0.00	Nil	0.00	
<b>BALANCE AS AT YEAR - END</b>	<b>4,89,52,728.00</b>	<b>49,78,244.00</b>	<b>5,39,30,972.00</b>	<b>4,64,71,779.00</b>	<b>24,80,949.00</b>	<b>4,89,52,728.00</b>	



**D. H. RAMANI & COMPANY**  
**CHARTERED ACCOUNTANTS**

201, "SAUMYA" Complex,  
 5-Kalpana Society,  
 B/h. Navrangpura Post Office,  
 Ahmedabad - 380 009.  
 Telephone No.:66614579

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2009**

Sanction Order Ref. No. & Date	F.Y. 2008 -2009 (Current Year)		Total Grants	F.Y. 2007 -2008 (Previous Year)		Total Grants
	Non-Plan Grants	Plan Grants		Non-Plan Grants	Plan Grants	
<b>SCHEDULE - 8 GRANTS-IN-AIDS RECEIVED FROM U.G.C.</b>						
(On actual basis)						
1. F.4-5/2007(IUC) dated 05.11.2008	1,15,00,000.00	0.00	1,15,00,000.00	0.00	0.00	0.00
2. F.4-5/2007(IUC) dated 25.03.2009	1,15,00,000.00	0.00	1,15,00,000.00	0.00	0.00	0.00
3. F.6-5/2007(IUC) dated 26.12.2008	0.00	3,00,00,000.00	3,00,00,000.00	0.00	0.00	0.00
4. F.4-5/2007(IUC) dated 27.04.2007	0.00	0.00	0.00	50,00,000.00	0.00	50,00,000.00
5. F.4-5/2007(IUC) dated 14.11.2007	0.00	0.00	0.00	85,00,000.00	0.00	85,00,000.00
6. F.4-5/2007(IUC) dated 18.03.2008	0.00	0.00	0.00	45,00,000.00	0.00	45,00,000.00
7. F.6-5/2007(IUC) dated 13.06.2007	0.00	0.00	0.00	0.00	15,00,000.00	15,00,000.00
<b>BALANCE AS AT YEAR - END</b>	<b>2,30,00,000.00</b>	<b>3,00,00,000.00</b>	<b>5,30,00,000.00</b>	<b>1,80,00,000.00</b>	<b>15,00,000.00</b>	<b>1,95,00,000.00</b>

(Amount - Rs.)

**RECEIPT & PAYMENT**

Account Head	F.Y. 2008 -2009 (Current Year)		F.Y. 2007 -2008 (Previous Year)	
	Receipt	Payment	Receipt	Payment
	Cash on Hand (Op. Balance)	15000.00	0.00	12010.00
Bank Balance (Op. Balance) SBI,Guj.Uni.Br.-SB A/c.-10298781250	2358558.77	0.00	11320067.69	0.00
Bank Balance (Op.Balance) SBI,Guj.Uni.Br.-SB A/c.- 10298782049	1382818.92	0.00	0.00	0.00
Cash on Hand (Cl. Balance)	0.00	32000.00	0.00	15000.00
Bank Balance (Cl. Balance) SBI,Guj.Uni.Br.-SB A/c.- 10298781250	0.00	2693417.77	0.00	2358558.77
Bank Balance (Cl. Balance) SBI,Guj.Uni.Br.-SB A/c.- 10298782049	0.00	2717805.92	0.00	1382818.92
10 <sup>th</sup> - 11 <sup>th</sup> Plan Expert Committee Meeting Exps.	0.00	310944.00	0.00	0.00
Advertisement Exps.	0.00	85718.00	0.00	185852.00
Associate Members A/c.	3433975.00	1789526.00	0.00	0.00
Associate Membership Fee	60000.00	0.00	0.00	0.00
Audit Fee	0.00	20000.00	0.00	20000.00
Automation of Gujarat University Library	400000.00	345031.00	3233.00	95138.00
Bank Charges	0.00	16422.00	0.00	24221.00
Bonus	0.00	41943.00	0.00	27137.00
Books & Journals	0.00	160744.00	2448.00	29678.00
Building Committee Meeting Exps.	0.00	133807.00	0.00	0.00
Building Maintenance	0.00	50597.00	0.00	75326.00
C.C.A. (Admn. Staff)	0.00	21330.00	0.00	29715.00
C.C.A. (Technical Staff)	0.00	22872.00	0.00	23960.00
C.P.W.D. A/c.	367382.00	0.00	0.00	367382.00
CALIBER-2007	0.00	0.00	0.00	40511.00
CALIBER-2008	0.00	424.00	8600.00	492950.00
CALIBER-2009	0.00	426733.00	0.00	0.00
Canteen Account	74757.00	67681.00	39435.00	39435.00
Canteen Subsidy	0.00	38397.00	0.00	37667.00
Car Loan Advance	24000.00	0.00	30825.00	0.00
Cash Contra	6865253.00	6865253.00	2195502.00	2195502.00
Computer Software	0.00	210929.00	0.00	97910.00
Computers	50000.00	3207403.00	0.00	1757540.00
Conference & Symposium	0.00	138573.00	0.00	41276.00
Consumable, Stores & Spares	31280.00	198126.00	31280.00	322227.00
Conveyance Charges	0.00	846.00	0.00	165.00
Dearness Allowance (Admn. Staff)	0.00	537133.00	0.00	513335.00
Dearness Allowance (Technical Staff)	0.00	930056.00	0.00	637003.00
Dearness Pay (Admn. Staff)	0.00	312963.00	0.00	428271.00
<b>CARRIED FORWARD</b>	<b>15063024.69</b>	<b>21376674.69</b>	<b>13643400.69</b>	<b>11238578.69</b>

**RECEIPT & PAYMENT**

Account Head	F.Y. 2008 -2009 (Current Year)		F.Y. 2007 -2008 (Previous Year)	
	Receipt	Payment	Receipt	Payment
<b>BROUGHT FORWARD</b>	<b>15063024.69</b>	<b>21376674.69</b>	<b>13643400.69</b>	<b>11238578.69</b>
Dearness Pay (Technical Staff)	0.00	563677.00	0.00	530360.00
Earnest Money Deposit	36925.00	36925.00	12000.00	12000.00
Electrical Fitting & Fixtures	0.00	0.00	0.00	6280.00
Electrical Maintenance	822.00	29073.00	668.00	44752.00
Electricity Charges	0.00	754759.00	0.00	606901.00
Entertainment Exps.	0.00	87077.00	0.00	53970.00
Equipment Maintenance	0.00	314122.00	0.00	243352.00
E-Subscription	0.00	349942.00	0.00	372858.00
Festival Advance	15000.00	15000.00	3000.00	3000.00
Franching Machine Advance	209235.00	20000.00	153748.00	175000.00
Furniture & Fixtures	0.00	193230.00	0.00	251909.00
G.B. Meeting Expenses	0.00	254922.00	0.00	226983.00
Garden Expenses	0.00	12497.00	0.00	15305.00
General Advance	8664354.00	8938860.00	592218.00	739500.00
General repairs & maintenance	7681.00	61486.00	5087.00	129978.00
Grade Pay (Admn. Staff)	0.00	110900.00	0.00	0.00
Grade Pay / Spl. All. (Tech. Staff)	0.00	177000.00	0.00	0.00
Group Insurance Saving	29170.00	31588.00	64967.00	64967.00
GRUH Finance Ltd.	39826.00	39826.00	35539.00	35539.00
Guest House Caretaking Charges	0.00	43500.00	0.00	36000.00
H.D.F.C. A/c.	25881.00	25881.00	39144.00	39144.00
Honorarium Exps.	0.00	31760.00	0.00	24600.00
Hostel Charges	18150.00	0.00	10025.00	0.00
Hostel Maintenance	0.00	4329.00	0.00	0.00
House Building Advance	50400.00	15000.00	35400.00	0.00
House Rent Allowance (Admn. Staff)	0.00	245203.00	0.00	192762.00
House Rent Allowance (Technical Staff)	0.00	333811.00	0.00	204920.00
Income Tax	1088352.00	1099707.00	2629683.00	2618328.00
Income & Expenditure A/c.	0.00	0.00	0.00	0.00
INFLIBNET Centre Employees P.F. Account	1162519.00	1160752.00	752104.00	752104.00
INFLIBNET Employees Co. Op. Credit Society Ltd.	216769.00	216769.00	243102.00	243102.00
INFLIBNET Sports & Recreation Club	1390.00	1390.00	1650.00	1650.00
Institutional Membership Fee	0.00	158551.00	0.00	133033.00
Interest A/c.	10828606.00	0.00	12770641.00	0.00
<b>CARRIED FORWARD</b>	<b>37458104.69</b>	<b>36884211.69</b>	<b>30992376.69</b>	<b>18996875.69</b>

**RECEIPT & PAYMENT**

Account Head	F.Y. 2008 -2009 (Current Year)		F.Y. 2007 -2008 (Previous Year)	
	Receipt	Payment	Receipt	Payment
<b>BROUGHT FORWARD</b>	<b>37458104.69</b>	<b>36884211.69</b>	<b>30992376.69</b>	<b>18996875.69</b>
Interest on Retirement Benefit	0.00	104225.00	0.00	0.00
Interest on Car Loan	0.00	0.00	68733.00	0.00
Interest on Scooter Loan	17402.00	0.00	23086.00	0.00
Investment in Fix Deposits	735816167.00	476969901.00	550163171.00	814310493.00
Leave Encashment	0.00	24753.00	0.00	0.00
Leave Salary Contribution	47160.00	0.00	6600.00	0.00
Legal & Professional Exps.	11000.00	29500.00	0.00	0.00
LTC Advance	9128.00	9128.00	30750.00	7300.00
LTC Expenses	0.00	283737.00	0.00	0.00
L.I.C. of India	118929.00	117865.00	143529.00	143529.00
Maintenance of UGC Website	0.00	0.00	111619.00	66879.00
Manpower Hiring Charges	0.00	906961.00	0.00	430743.00
Medical Facility Contribution	1800.00	1800.00	900.00	900.00
Miscellaneous Income	69750.00	0.00	59298.00	0.00
Miscellaneous Expenses	0.00	93321.00	0.00	14091.00
Networking Expenses	0.00	5800.00	0.00	1220903.00
Newsletter Publication Expenses	0.00	172280.00	0.00	28604.00
Newspaper & Periodicals Expenses	0.00	29398.00	0.00	216234.00
NIAS Project	50000.00	21000.00	0.00	0.00
Office Equipments	0.00	345711.00	0.00	296340.00
Office Expenses	0.00	101610.00	0.00	31008.00
Office Rent	0.00	1030000.00	0.00	1030000.00
Overtime Allowance (Admn. Staff)	0.00	2234.00	0.00	2170.00
P.F. Contribution	0.00	313717.00	0.00	135400.00
Pay Commission Arrears	0.00	1429938.00	0.00	0.00
Pension & Gratuity	15600.00	250376.00	0.00	1040984.00
Permanent Institutional Building Construction	0.00	7349189.00	0.00	365663.00
Petrol Exps.	0.00	25523.00	0.00	0.00
Planner-2007	0.00	1600.00	0.00	476949.00
Postage & Telegram Expenses	0.00	234122.00	0.00	167660.00
Professional Fees	0.00	36250.00	0.00	28500.00
Professional Tax	66870.00	66750.00	22900.00	22900.00
Recruitment Exps.	0.00	516253.00	0.00	119475.00
Regional Training	0.00	0.00	0.00	75000.00
<b>CARRIED FORWARD</b>	<b>773681910.69</b>	<b>527357153.69</b>	<b>581622962.69</b>	<b>839255336.69</b>

**RECEIPT & PAYMENT**

Account Head	F.Y. 2008 -2009 (Current Year)		F.Y. 2007 -2008 (Previous Year)	
	Receipt	Payment	Receipt	Payment
<b>BROUGHT FORWARD</b>	<b>773681910.69</b>	<b>527357153.69</b>	<b>581622962.69</b>	<b>839255336.69</b>
Reimbursement of Medicines	0.00	312952.00	0.00	325402.00
Rent for Director Residence	0.00	312000.00	0.00	150000.00
Revenue Stamps A/c.	389.00	389.00	256.00	256.00
Sir Ratan Tata Trust (SRTT)	0.00	276331.00	0.00	0.00
Salaries (Admn. Staff)	41770.00	1355232.00	6620.00	874627.00
Salaries (Technical Staff)	221333.00	3557909.00	7154.00	2076906.00
Salary Payable	6545640.00	6545640.00	3418804.00	3418804.00
Scientific Equipment	0.00	166007.00	0.00	43740.00
Scooter Loan	13683.00	83200.00	23905.00	0.00
Security Deposit	28750.00	30000.00	2000.00	0.00
Security Expenses	0.00	495466.00	0.00	447128.00
Service Charges to AES Hostel for Trainees	0.00	475000.00	0.00	475000.00
SOUL Expenses	34,47,986.00	15,69,466.00	9460295.00	1607504.00
Stationary & Printing Expenses	49808.00	584200.00	45771.00	397072.00
Stipend to Trainees (for Database Development Activities)	0.00	709057.00	0.00	328502.00
Stock	242674.00	111577.00	253014.00	242674.00
Sundry Deposit	0.00	400.00	0.00	150000.00
TDS Receivable	0.00	0.00	58905.00	0.00
Telephone & Trunk Call Expenses	2297.00	230956.00	84.00	221470.00
Transport Allowance (Admn. Staff)	100.00	89632.00	0.00	33800.00
Transport Allowance (Technical Staff)	0.00	153108.00	3200.00	50572.00
Traveling Advance	182681.00	230917.00	138800.00	138758.00
Traveling Expenses	139117.00	1867272.00	55819.00	673307.00
University of Hyderabad	3154782.00	1757216.00	0.00	1398532.00
U.G.C. Grants	53000000.00	0.00	19500000.00	0.00
U.G.C. Grants for E-Subscription	470000000.00	686576458.00	621000000.00	408748454.00
UGC Grants for North East Region	0.00	609010.00	0.00	3381504.00
UGC INFONET	100000000.00	172700824.00	160664000.00	131200838.00
University of Delhi	0.00	1264695.00	0.00	0.00
Vehicle - Car	0.00	744220.00	0.00	0.00
Vehicle Insurance Exps.	0.00	26340.00	0.00	0.00
Vehicle Hire Charges	0.00	612892.00	0.00	621403.00
Workshop on Linux	73700.00	21101.00	0.00	0.00
<b>BALANCE</b>	<b>1,41,08,26,620.69</b>	<b>1,41,08,26,620.69</b>	<b>1396261589.69</b>	<b>1396261589.69</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)