

ANNUAL REPORT

April 1, 2017 to March 31, 2018

Information and Library Network Centre
Gandhinagar

Annual Report

(April 1, 2017 to March 31, 2018)



Information and Library Network Centre
Gandhinagar

From the Director's Desk

Dr. Jagdish Arora **Director**



I am pleased to present the Annual Report of the Information and Library Network (INFLIBNET) Centre from April 1, 2017 to March 31, 2018 to the academic community in India. The Centre was buzzing with a number of activities around the year under report. While the new model of e-Shodh Sindhu kept us busy negotiating lowest rates of subscription with the publishers, considerable time had to be devoted to India Rankings 2018, development of portals for "Study in India", "Ek Bharat Shreshta Bharat (EBSB)" / "Unnat Bharat Abhiyan (UBA) for Institutions of Higher Education".

India Rankings

"India Rankings 2017" using National Institutional Ranking Framework (NIRF), was launched by Shri Prakash Javadekar, Hon'ble Union Minister of Human Resource Development, Government of India on 3rd April, 2017 at Shastri Bhawan, New Delhi. The report on India Rankings 2017 was released by Shri Pranab Mukherjee, the then President of India, on 10th April 10, 2017 at a function held at Rashtrapati Bhavan. Six scientists from INFLIBNET Centre were invited to the Rashtrapati Bhawan to witness this historic ceremony.

The stage for launching India Rankings 2018 was set successfully for the third consecutive year with INFLIBNET Centre playing a pivotal role along with NBA. Services of the INFLIBNET Centre were engaged for development, maintenance and updation of ranking platform and NIRF Web site as well as for retrieving data on publications, citations and highly-cited papers for all applicant institutions. The third edition of this exercise ranked institutions of higher education in nine categories that included i) an overall ranking; ii) category-specific ranking for universities and colleges; and iii) six domain-specific rankings in the disciplines of Engineering, Pharmacy, Management, Architecture, Medical and Law. India Rankings 2018 was launched on 3rd April, 2018. I would like to put on record that a team of young scientists from INFLIBNET Centre worked day and night with full dedication to make India Rankings possible for three consecutive years, i.e. from 2016 to 2018.

e-Shodh Sindhu: Extending Access to Scholarly Journals and Databases

Providing access to scholarly content through library consortia is one of the key and most prominent activity of the Centre. During the calendar year 2017, e-ShodhSindhu continued to provide differential

access to more than 15,000 full-text journals from 25 publishers, 5 bibliographic databases, 2 legal databases, 4 factual databases and one standards database to 356 eligible institutions including CFTIs, central universities, 12(B) universities, national law schools and IUCs of the UGC. The College component of the consortium, called N-LIST, continued to provide access to 6,500+ journals and 30,10,000+ e-books to more than 3000 colleges under the N-LIST programme. The Consortium also provides access to three e-resources, namely, ASCE, ASME, IEEE-ASPP to 94 AICTE-funded institutes (including 22 Universities / department of Universities) with the funding from the AICTE.

With successful completion of first phase of e-Shodh Sindhu, it was resolved that in its second phase starting January 2018, the current model of centrally-controlled and centrally-financed consortium would be transformed into a model wherein institutions would have an option to select e-resources of their choice from a comprehensive list of resources that are being subscribed by the consortium as well as those that are being subscribed by individual institutions and subscribe them on the rates negotiated by e-Shodh Sindhu. As such, an "Online e-Resources Registration System" was developed that facilitated higher education Institutions in the country to register their e-resource requirements including e-journals and e-databases on the portal. Based on the e-resource requirements submitted by Institutes, the Consortium negotiated rates of subscription for 85 resources in comparison to 43 resources that were negotiated till 2017. As a result, scope of the consortium increased from 65 CFTIs, 218 universities / IUCs, 2800+ colleges and 94 AICTE funded institutions to entire higher education institutions in the country. For the year 2018, the consortium subscribed to 17 resources through central funding for eligible institutions that registered their requirements through e-Shodh Sindhu portal, remaining 68 resources can be subscribed by individual institutions on rates negotiated by the Consortium using their own funds.

However, the task of carving out a workable model of e-Shodh Sindhu was highly taxing for the Negotiation Committee of e-Shodh Sindhu. Evolution of new model of e-Shodh Sindhu kept us busy liaising with the Ministry, member institutions and publishers of e-resources. Meetings of the Negotiation Committee of e-Shodh Sindhu was convened five times over a period of three months encompassing 11 days from December 2017 to February 2018. It took substantial efforts and persuasion to get lower rates of subscription for e-resources from publishers in an environment where their will no longer be a single order and single payment. I am pleased to report that the Negotiation Committee has been able to get lower rates of subscription for most of the resources in spite of severe constraints.

New Activities and Projects

Appreciative of our accomplishments on various fronts, the Centre was given the following important assignments during the year under report:

- i) National Accreditation and Assessment Centre (NAAC), an Inter University Centres of the UGC sought assistance and help of the Centre in the process of developing their new accreditation and assessment framework. Besides extending proactive help in this process, Memorandum of

Understanding (MoU) was signed with NAAC for providing bibliometric data of colleges and universities that are applicant for NAAC accreditation and assessment.

- ii) National Board of Accreditation (NBA) assigned the project entitled "Development of Accreditation Workflow Management System (AWMS)" to INFLIBNET Centre, which involved automation of accreditation workflow, and its management done by NBA of technical institutions in India.
- iii) Consortium for Educational Communication (CEC), an Inter University Centres of the UGC signed Memorandum of Understanding (MoU) with INFLIBNET Centre to design, develop and host website of CEC along with hosting of e-content developed by CEC and its EMRCs.
- iv) Educational Consultants India (EdCIL), in consultation with Ministry of Human Resource Development (MHRD), assigned the task of conceptualising, designing and developing web portal for "Study in India" incorporating relevant information and web applications to support dynamic maintenance of portal, features to support data analytics, search and browse interfaces along with Institutional Module, Learner Module, Counselling Module and Administrative Module.
- v) The MHRD assigned the task for creation of web portal of "Ek Bharat Shrestha Bharat" to INFLIBNET Centre. "Ek Bharat Shrestha Bharat" is a web-portal which is sub-set of MHRD project called "Unnat Bharat Abhiyan", being executed by IIT Delhi. EBSB is designed to facilitate exchange of cultural events and activities among state of India. In addition, the Centre also created an interface that facilitates receipt of online application from Institutes desirous of joining "Unnat Bharat Abhiyan" (UBA) and opting for villages.

I would like to make a special mention of "Indian Research Information Management (IRINS)", a new initiative taken by the INFLIBNET Centre to complement and supplement VIDWAN: An Expert Database. IRINS is web-based Research Information Management (RIM) service developed by the Centre to organize research related information at the institute level. The portal facilitates academic, R&D organizations and faculty members, scientists to collect, curate and showcase the scholarly communication activities and provide an opportunity to create a scholarly network of scientists in a given discipline. The IRINS is available as free software-as-service to the academic and R&D organizations in India. It supports integration of existing research repository with open and commercial citation databases, scholarly publishers, etc. It is integrated with academic identities such as ORCID ID, Scopus ID, Research ID, Microsoft Academic ID, Google Scholar ID for ingesting the scholarly contributions. A number of centrally-funded technical institutions and universities are early adopters of IRINS.

UGC Web Site, UGC Portals and e-SARTS

The Centre continued to update and maintain the web site of UGC and provide its help, assistance and services for automation of its various schemes, Grant Management System and e-Scholarship-

Fellowship Award Registration Tracking System (e-SARTS) and for developing UGC Portal for Central Universities in India for automation of administrative and financial routines. The Centre designed, developed and maintained online portals for automating more than 30 scholarships, fellowships and schemes for the UGC.

Existing Activities and Services

While taking new projects and schemes, it was ensured that our existing initiatives do not suffer. Shodhganga: a repository of full-text theses in Indian Universities has grown by leaps and bounds during the year under report. As on 31st March, 2018, 375 universities have signed MoU on Shodhganga with the INFLIBNET Centre including 67 universities who signed the MoU during the financial year under report. Total numbers of theses deposited in the repository have grown to 1,87,000. Moreover, 80 universities that are signatory to MoU with INFLIBNET Centre on Shodhganga, have received funds from UGC as per the recommendation of the INFLIBNET Centre as incentive for joining this initiative.

Noteworthy developments were made under e-content projects namely, e-PG Pathshala and Vidhya-mitra. 10,000 e-text and 17,000 self-learning (video) along with other two components, i.e. self-assessment and Learn More were developed and uploaded into e-PG Pathshala across 70 subjects. Vidya-mitra, as on 31st March, 2018, hosts more than 44,459 e-texts, 66,174 e-tutorials and 37,827 other e-material. A mobile app was also developed that can be download from Play Store (for Android) and Apple Store (for iphone and ipad). INFLIBNET's Access Management Federation (INFED) launched for providing off-campus access to e-resources in member institutions reached newer heights of success with joining of 48 institutes and 32 publishers. Satisfactory progress is also being reported in other key activities including IndCat, Vidwan, SOUL software, ICSSR Data Service, etc.

International CALIBER, Workshops and Training Programmes

During the period under report, the 11 International CALIBER 2017 was organised by Anna University, Chennai in collaboration with INFLIBNET Centre, Gandhinagar at Anna University, Chennai from 2 to 4 August, 2017 on the theme "Re-envisioning Role of Libraries: Transforming Scholarly Communication". More than 250 delegates attended the Convention including delegates from UK, USA and Singapore.

Capacity building and imparting training in the use of ICT to LIS professionals working in university and college libraries is one of the foremost mandates of the Centre and the Centre continued imparting training programmes and workshops on various topics of interest. During the year under report, 41 workshops and training programmes were organized that benefitted 1,396 participants. These workshops and training programmes included In-house Training Programme on SOUL 2.0 (2), INFLIBNET Regional Training Programme on Library Automation (IRTPLA) (2), Specialised Training Programmes (16) of variable durations on various topics including Setting-up Digital Libraries using DSpace, MOOCs and e-Learning, JGate Plus and Resource Sharing, Research Impact Evaluation and Altmetrics, Bibliometrics and Research Output Analysis, ICT for Libraries, Libraries on Cloud, ETDs,

Reference Management System, etc., User Awareness Programmes and National Conference on iETD, Shodhganga and Urkund (2) and Collaborative Special Training Programme and National Workshops (7).

The 2017 Higher Education Forum was organized by the INFLIBNET Centre in collaboration with the Elsevier Science for 7th consecutive years at the Lalit Hotel, New Delhi on 31st October, 2017. The Forum serves as a platform for key stakeholders from the higher education community to gather and discuss all important aspects of higher education and research in India. More than 70 participants attended the programme.

The UGC, in coordination with the INFLIBNET Centre, organised one-day Orientation Workshop for SWAYAM Coordinators of Universities at AICTE, New Delhi on 2nd February, 2018 with an aim to sensitize and train SWAYAM coordinators on the roles and responsibilities of the Universities and its SWAYAM coordinators and also to increase the reach of courses offered on SWAYAM. More than 150 representatives from universities attended the programme.

Courses in Library and Information Science on SWAYAM Platform

I am pleased to inform that seven courses in library and information science launched on SWAYAM platform in the month of November 2017 were successfully completed during the quarter under report. The INFLIBNET Centre is the anchor institute for these seven courses, which includes i.e. Digital Libraries, Knowledge Society, Information Sources, Systems and Services, Information Communication Technology for Libraries, Management of Libraries and Information Centres & Knowledge Centres, Information Storage and Retrieval, Bibliometrics and Scientometrics. I am pleased to inform that 15-week course on Digital Libraries attracted 700 learners when it was first offered on trial in Dec., 2016, during its second offering in Nov., 2017, it attracted more than 1400 learners.

Considering the popularity and demand of these courses, the Ministry of Human Resource Development (MHRD) has approved their re-launch for the second consecutive year beginning July 2018. Besides, the INFLIBNET Centre has also been given responsibility for coordination and disbursement of funds for development of MOOCs for SWAYAM platform. 84 courses have been prepared / re-purposed for the MOOCs across 16 subjects that are being offered on SWAYAM platform.

Honours and Awards

The period under report is also most satisfying and rewarding for me individually as well as for the Centre. It is a matter of pride and privilege that none other than the Ministry of Human Resource Development (MHRD) recognized the contributions made by the INFLIBNET Centre towards Digital India. Shri Pranab Mukherjee, the then President of India, presented Citations and Mementos the undersigned and to Mr. Abhishek Kumar, Scientist C (CS) for our commendable contributions to

digital initiative for higher education during the National Convention on Digital Initiative organized by Ministry of Human Resource Development, Government of India on 9th July, 2017 at Vigyan Bhavan, New Delhi. In addition, NDLTD Leadership Award for the year 2017 for Shodhganga Scheme of the INFLIBNET Centre was presented to the undersigned and to Mr. Manoj Kumar K, Scientist D (CS) during the 20th International Symposium on Electronic Theses and Dissertations held in Washington DC, USA from 7th August to 9th August, 2017. Both of us attended the conference and received the NDLTD Leadership Award from Dr. Edward Fox, the Founder of Networked Digital Library of Theses and Dissertations (NDLTD), a world-wide ETD initiative. In addition, the Centre received Open Education 2018 Awards for Open Education Excellence for its repository called "VIDYA-MITRA: An Integrated e-Content Portal". The Award was presented during OEC Global Conference held in Delft, The Netherlands from 24-26 April, 2018. Besides, I also received the Librarian's Choice Award for Lifetime Achievement for the year 2017, instituted by Royal Society of Chemistry, in recognition of individual contribution towards Library and Information Science community of India. INFLIBNET Centre is indeed very thankful to MHRD, Government of India, to the NDLTD Award Committee as well as to the Open Education Consortium for recognizing our contributions to open access and digital initiatives for higher education community. In addition, the UGC was most gracious in recognising my services and extended my services as Director, INFLIBNET Centre for the second time for a period of three months beginning March 31, 2018.

At the fag end of my tenure as Director of this prestigious organisation, I would like to convey my sincere thanks to the authorities in UGC and MHRD for their whole-hearted support and generous funding, to my colleagues at the INFLIBNET Centre for their tireless efforts in the success of all our projects, schemes and programmes as well as to the entire LIS community across India for their support and encouragement. I am sure that the UGC would be able to search and select an able hand who would take the institute to newer heights of success.

I am sure that the services of the Centre were delivered to the users in universities and colleges more efficiently and effectively during the year. The Centre is, however, open to receive suggestions and comments from our user community.

Date: 1st July, 2018

Place: INFLIBNET, Gandhinagar



(Jagdish Arora)

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PART - I

Introduction, Aims & Objectives, Governing Structure and Human Resources

1. Introduction

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

The technology being a driving force in the contemporary education system, the Centre, has taken-up a number of initiatives for the benefit of the academic community in India. These initiatives can broadly be grouped into the following 12 categories:

1.1. Automation of University Libraries

The Centre proactively helps universities to automate their libraries using SOUL 2.0, the integrated library management software developed by INFLIBNET. The INFLIBNET Centre signed an MoU with all the 166 universities on library automation which provides for universities to contribute their bibliographic records of documents available in their libraries to the IndCat: Union Catalogue of the INFLIBET Centre.

1.2. IndCat: Union Catalogue of Indian Universities

IndCat consists of union catalogue of books, Serials and Ph.D. theses available in university libraries. It contains bibliographical records of 1.42 crores books from 176 university libraries, 35,248 unique journals with holdings information for 223 universities and 2,74,622 bibliographic records of theses from 317 universities.

1.3. Software Development: SOUL 2.0: Integrated Library Automation Software

SOUL 2.0: INFLIBNET Centre contributes towards automation of libraries through SOUL software developed in-house. SOUL has more than 3,400 + installations across the country.

1.4. Open Access and Open Data Initiatives

1.4.1. Shodhganga: Launched in January, 2010, Shodhganga, a reservoir of Indian Theses, host more than 1,87,000 full-text theses from 325 universities. The initiative got momentum when eligible universities were provided access to plagiarism detection software, and funds were

given to them for digitization of backfiles of theses and for setting-up of ETD labs in their respective universities between 2013 and 2016.

1.4.2. Shodhgangotri: Initiated in 2013, Shodhgangotri, is a repository of research in progress that hosts 3900+ synopses / approved research proposals submitted by 44 universities.

1.4.3. ICSSR Data Service - Indian Social Science Data Repository: The project assigned to the INFLIBNET Centre in 2015 by the ICSSR, host 140 datasets from MoSPI on the platform customized using NADA software.

1.5. Library Consortium and its By-product

1.5.1. e-Shodh Sindhu (2015): Launched in 2015, e-ShodhSindhu provides access to more than 15,000 e-journals and 31 lakhs books to more than 4,000 institutions including universities, centrally-funded technical institutions and colleges. NLIST is the college component of e-ShodhSindhu that provides access to more than 6,000 electronic journals and 31,00,000 e-books to more than 3,900 colleges.

1.5.2. INFLIBNET Access Management Federation (INFED): Initiated in 2017, INFED provides off-campus access to e-resources to users in institutes covered under e-ShodhSindhu. More than 60 institutions are benefitting from this initiative.

1.5.3. InfiStat: InfiStats, a by-product of e-Shodh Sindhu launched in 2015, facilitate monitoring and evaluation of usage statistics of subscribed e-resources made accessible to the member institutes under e-Shodh Sindhu.

1.6. E-learning, Content Development and MOOCs

1.6.1. e-PG Pathshala: Initiated in 2012, e-PG Pathshala picked-up momentum from 2014 onwards. INFLIBNET coordinates development of e-content in 70 subjects across all disciplines. Its repository hosts 18000 e-text, videos, self-assessment and learn more.

1.6.2. Vidya-mitra: Project assigned to the INFLIBNET Centre in May 2014, Vidya-mitra is an online learning portal for all the e-content projects developed under the NME-ICT, MHRD. Vidya-mitra hosts 62,000+ Video (Self-learning / e-Tutorial) and 45,000+ eText.

1.6.3. SWAYAM (for PG Course): Launched on July 9, 2017, the INFLIBNET Centre is a nodal agency for coordinating for MOOCs for PG courses. More than 80 courses are being prepared for the MOOCs and 60 non-technical PG courses were offered on SWAYAM platform during the year under report. The INFLIBNET Centre is also nodal agency for offering seven courses in library and information science on SWAYAM Platform. These seven courses in LIS, launched on SWAYAM platform in the month of November 2017, have been successfully completed in

March, 2018. These seven courses have also been approved for re-run during 2018 on popular demand.

- 1.6.4. SWAYAM-PRABHA:** Launched on 9th September, 2017, the INFLIBNET Centre has developed a portal for SWAYAM-PRABHA and is hosting and archiving of videos for 32 DTH channels devoted to telecasting of high-quality educational programmes.

1.7. Ranking of Institutions and Accreditation Work for NBA and NAAC

- 1.7.1. India Ranking 2016, 2017 and 2018 (NIRF):** Launched in September 2015, the first edition of India Rankings was launched in 2016. The INFLIBNET Centre developed portal to capture data required for ranking of institutes. The Centre also provided data on publications, citations and patents for all applicant institutes.

- 1.7.2. e-NBA:** National Board of Accreditation (NBA) has assigned task of developing a full-fledge online platform for accreditation workflow management system for technical institutes in December 2017.

- 1.7.3. NAAC:** NAAC has assigned the job of providing publications, citations, H-index and other related bibliometric data to NAAC for institutions that are to be accredited in November 2017.

1.8. Vidwan and Research Information Management (RIM) Service

- 1.8.1. Vidwan:** Project assigned to the INFLIBNET Centre in May 2014 by NME-ICT, Vidwan consists of detailed profiles of more than 25,000 Indian scientists and faculty members working in 2,700+ academic institutions.

- 1.8.2. Research Information Management (RIM) Service:** New initiative taken-up on behest of MHRD in 2017, IRINS is web-based Research Information Management (RIM) service that facilitates the academic, R&D organisations and faculty members, scientists to collect, curate and showcase the scholarly communication activities and provide an opportunity to create the scholarly network. It has integrated with academic identity such as ORCID ID, ScopusID, Research ID, Microsoft Academic ID, Google Scholar ID for ingesting the scholarly publication from various sources.

1.9. Website Development and Maintenance

The Centre maintains comprehensive Website in English and Hindi for all its activities. RSS (Real Simple Syndication) technology is used to facilitate users and bloggers to harvest recent updates from the Centre's website. Web 2.0 features and functionalities, including Wiki, Blog, Chat and Discussion Forum, RSS feed, etc. were incorporated in the Website.

1.10. Web Portals on Various Government Initiatives (All initiatives taken on best of MHRD in the year 2017 - 2018)

- 1.10.1. Study in India:** Study in India is a web portal designed for foreign students seeking to study in India. It provides all the information one needs on Indian education institutions in India, how to plan their studies, how and where to stay in India, what kind of events are planned, application processes, etc. The core part of portal is institute login (where institute can define their seat to foreign student) and student login (where registered student can participate in choice filling, mock counselling and final counselling).
- 1.10.2. Ek Bharat Shreshta Bharat (EBSB):** A portal hosts details of events being organised by different states. Events include cultural programme, academic programme, etc. EBSB is designed to promote the spirit of national integration through a deep and structured engagement between all Indian States and Union Territories through a year-long planned engagement between States.
- 1.10.3. Unnat Bharat Abhiyan (UBA) for Institutes:** A platform cum database of all institutes who are participating in UBA 2.0.

1.11. UGC Web Site and e-Governance @ UGC

- 1.11.1.** The UGC gave the responsibility for development and maintenance of its website as well as for automation of its various schemes, Grant Management System and e-Scholarship-Fellowship Award Registration Tracking System (e-SARTS).
- 1.11.2. e-Governance @ UGC-Schemes:** Developed more than 30 web services for UGC for its scholarship, fellowships, travel assistance, General Development Assistance, women hostel, autonomous and heritage institutions, Distance Education, etc.

1.12. Capacity Building Programme

During the period under report, the Centre conducted 40 training programmes, workshops or other events that were attended by 1246 participants.

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;

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- ☞ 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; and
 - ☞ Facilitate creation of open access digital repositories in every educational institution for hosting educational and research content 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;
 - ☞ to promote and implement computerization of operations and services in the libraries and information centres of the country following uniform standards;
 - ☞ 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;
 - ☞ to evolve a national network interconnecting various libraries and information centres in the country and to improve capability in information handling and services;
 - ☞ to provide reliable access to document collection of libraries by creating online union catalogue of serials, theses / dissertations, books, monographs and non-book materials (manuscripts, audio-visuals, computer data, multimedia, etc.) in various libraries in India;

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- ☞ 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;
 - ☞ 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;
 - ☞ 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;
 - ☞ to create databases of projects, institutions, specialists, etc. for providing online information services;
 - ☞ to encourage cooperation 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
 - ☞ 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

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- 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 housed in its new institutional building constructed on land measuring 10,000 Sq. Mtrs in Infocity, Gandhinagar. It is located amidst reputed institutions such as NID, DA-IICT and NIFT. The building, consisting of Administrative, Academic and Residential Blocks, is designed by internationally acclaimed architect and renowned academician Dr. Balkrishna V Doshi of Vastu-Shilpa in consultation with other experts in the field of sustainable, eco-friendly and energy-efficient building. The building is furnished tastefully by M/s Godrej. It is partially air-conditioned and partially air-cooled following tenets of a green building. The current composition of the Building Committee is given in **Appendix IV**.

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 mentioned 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 six ex-officio members and three nominated members. The members of the Governing Board are also members of the Council. As such, total number of members of the Council is twenty-one. 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 I**.

5.2. Governing Board

Governing Board (GB) manages, administers, directs and controls the affairs of the Centre as per Rules and Bye-laws of the Centre. The Governing Board is headed by a Chairperson, who is an eminent academician in the areas of relevance to the Centre and is appointed by the President of the Council. The Governing Board has five 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 in a year. The current members of the Governing Board are listed in **Appendix II**.

5.3. Finance Committee

The Finance Committee (FC) is a sub-committee of the Governing Board and consists of seven members. It has four 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 III**.

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 as on 31st March, 2017 is given in **Appendix V**.

6.1. Functional Group@ INFLIBNET Centre

The scientific and technical manpower available in the Centre are clustered into the following working groups based on functional requirements of the Centre.

6.1.1. Database Management and R & D Group: The Database Management Group has developed suitable software and search interfaces for managing and updating a large number of bibliographic records available in Union Catalogues. The IndCat contains bibliographic description, location and holdings information for books, journals and theses in all subject areas available in different university libraries across the country.

6.1.2. Software R & D: The objective of this group is to develop software for academic community in India with focus on software for library automation, union catalogue and software tools to facilitate data interchange and exchange. This group is also involved in supporting all other activities of the Centre by providing adequate software support from time to time. The mission of this group is to provide technological and software support for all activities of the Centre using latest technologies and available development tools. The group also promotes and supports open source software movement within the Centre as well as in the entire higher education community in India.

6.1.3. HRD: Imparting training to manpower working in the university and college libraries in the use of IT is an important objective of the Centre and has been given due priority. INFLIBNET

Regional Training Programme for Library Automation (IRTPLA) and User Awareness Training Programme were conducted across the country in collaboration with the universities. National and International Conventions called PLANNER in North-Eastern Regions and International CALIBER in various states of India is being organized in alternate year as part of the human resource development activities. Besides, training programmes on various specialized topics are being organized round the year at INFLIBNET Centre as well as in academic institutions around the country.

- 6.1.4. E-Resource Management Group:** Major objectives of the group is to provide current as well as archival access to e-resources to faculty, researchers and students in colleges and universities at a highly discounted rates of subscription and at the best terms and conditions using consortia approach. The group also evaluates impact of access to peer-reviewed scholarly content on research productivity of the institutions both in terms of quality and quantity of publications in colleges and universities. E-resource Management Group is responsible for all consortium related activities including e-Shodh Sindhu and NLIST.
- 6.1.5. Open Access R & D Group:** The open access has emerged as a promising alternative to publisher-driven model of scholarly publishing that provides free access to scientific information to its users. The open access publishing model offers access to full-text of journals free of charge to users through well-organized and professionally-managed web interfaces. The essential premise of open access movement is that the scientific community and society in general benefits from the open exchange of ideas and information unaffected and unencumbered from the limitations of subscription costs, licensing arrangements and copyright inherent to the traditional model of commercial journal publishing. Open access journals and institutional repositories are two routes of open access publishing system.
- 6.1.6. e-Learning and e-Content Development:** The Centre has dedicated group of people who are working on e-Learning and e-Content development. Objective of this group is to create content in open access with the help of SMEs, provide cutting edge technology to academicians to develop / host the content. Currently, the Centre has a number of e-Content projects including e-PG Pathshala, Vidya-Mitra, SWAYAM and SWAYAM-Prabha.
- 6.1.7. Web Services R & D Group:** Major objective of the Group is to provide organized and structured access to services and resources offered by the Centre to the user community through the Centre's Website. The Group ensures that Website of the Centre functions as an integrated interface for all services and resources accessible to the user community in the universities. The Group designs innovative web-based interfaces for effective and efficient delivery of services using the latest web-based tools and technologies. The Group undertakes all activities related to selection, organization and presentation of services and resources in a meaningful way for the benefit of the user community.

6.1.8. Access Management Group: Access Management Group is responsible for examining and evaluating tools and technologies, including Web proxies, Shibboleth, Referring URL, Kerberos, etc. that are in vogue for authenticating users to access and operate upon digital materials irrespective of their login location. The Group works on access management technologies, especially using open source software, with an aim to help universities to adopt authentication technologies to facilitate access to e-resources to the off-campus community. The Group also works on other aspects of access management in light of the fact that Centre is involved in the process of building digital repositories of electronic theses and dissertations (Shodhganga), e-prints, preprints, manuscripts, etc.

Major R&D and human resource development activities are undertaken according to the requirements of the library and academic community including students, faculty and research scholars. Major scientific and technical activities undertaken by these functional groups during the period under report are given in Part II of this report.

Part - II

Activities and Major Services of the INFLIBNET Centre

Activities at a Glance

Sl. No.	Activities, Services and Projects	Year of Commence-ment	Number of	
			Univ.	Cumulative No. of Records
1	IndCat: Union Catalogue of books, Serials and Theses in university libraries	1991		
	No. of contributing Universities / No. of Books		184	1,41,85,886
	No. of contributing Universities / No. of Serials		223	35,248
	No. of contributing Universities / No. of Theses		317	2,74,622
	Access: Available in Open Access to the world wide community			
2	IR@INFLIBNET: Institutional Repository	2004		1777
	Access: Available in open access to the world wide academic community			
	Usage: Collection Views			39,250
4	Annual / Bi-annual Conventions, Training and Workshops (including SOUL, IRTPLA, e-Resource Awareness, Dspace, Shodhganga, Bibliometrics and Other Specialized Programmes	1991		
	11 th International CALIBER 2017 / No. of Participants	1994		260
	No. of Programme			40
	No. of Participants			1136
5	SOUL 2.0: Library Automation Software / No. of Installations	2009		3492
6	Shodhganga: A Reservoir of Indian Theses	2010		
	MoU Signed			375
	No. of Theses			1,87,000
	No. of Contributing Institutes			325
	No. of Universities having access to anti-plagiarism Detection Software URKUND	2015		179
	Access: Available in open access to the world wide academic community			
	Usage: Page views			43,94,25,467
7	E-PG Pathshala: e-Content for PG Courses	2011		
	No. of Subjects			70
	No. of Modules (e-text)			18,200
	No. of Modules (video)			17,450
	No. of Experts			4,000+
	Access: Available in open access to the world wide academic community			
8	Shodhgangotri: Repository of Approved Synopsys for Doctoral Dissertation Thesis	2011		
	No. Synopsis			3900
	No. of Contributing Institutions			51
	Access: Available in open access to the world wide academic community			
9	VIDWAN: Database of Experts with their Research Publications	2013		
	No. of Expert's Profiles			25,093
	No. of Contributing Institutions			2,999

	Access: Available in open access to the world wide academic community		
	Usage: Page Views		1,69,420
10	Vidya-mitra: Integrated Repository of all e-Content Project Repository of all MHRD e-Content project funded by the MHRD	2013	
	No. of e-Text		44,459
	No. of e-Tutorials		66,174
	Other e-Materials		37,827
	Access: Available in open access to the world wide academic community		
	Usage: Page Views (Vidya-mitra and e-PG Pathshala):		1,02,70,740
11	India Rankings (NIRF)	2015	
	No. of Applicant Institutes		3,585
	No. of Unique Institutes		2.812
12	ICSSR Data Service: Platform to host Datasets from MoSPI	2015	
	No. of Datasets		140
	Access: Available in open access to the world wide academic community		
	Usage: Total number of resources downloads		24,89,654
	Total number of views		56,26,002
	Total registered users		998
13	E-Shodh Sindhu: Access to e-Resources (e-Journals, e-Books and databases) to Indian Institutes	2016	
	No. of Core Members (CFTIs)		91
	No. of Core Members (Universities)		178
	No. of Technical Institutes (AICTE)		94
	No. of e-Journals		7038+
	No. of Bibliographic Databases		04
	No. of e-Books		30,00,000
	Usage: No. of full-text downloads		3,21,05,292
	N-LIST: e-Resources to Colleges		
	No. of 12(B) Colleges		2,972
	No. of e-Journals		6,094+
	No. of Bibliographic Databases		04
	No. of e-Books		31,65,409
	Usage: No. of User ID Created for Access		4,50,000+
14	SWAYAM: Massive Open Online Courses	2016	
	No. of PG Courses (through UGC)		60
	No. of Courses Offered by INFLIBNET in LIS as Anchor Inst.		07
	No. of Learners registered		3917
	Access: Available in open access to the world wide academic community		
15	SWAYAM Prabha: 32 Academic DTH Channels		
	No. of Channels		32
	No. video lectures		32,300+
	Access: Available in open access to the world wide academic community		
16	INFLIBNET Access Management Federation (INFED): Off-campus Access to e-Resources	2017	
	No. of Institutes joined INFED		48
	No. of Publishers		32
	Publishers Signed membership of INFED		04

1. Automation of University Libraries

The University Grants Commission, on recommendation of the INFLIBNET Centre, had supported 142 universities during IX Plan period and 24 universities during XI/XII Plan periods for automation of their libraries with software and training support from the INFLIBNET Centre. The total funds allocated to 24 universities for automation of their libraries during XI/XII Plan period was Rs. 195.60 lakhs including Rs. 6.50 lakhs for purchase of equipment (PCs, servers, accessories, scanner, etc.) and Rs 1.65 lakhs recurring grant for five years for each of the 24 universities. The Centre proactively helped these universities to automate their libraries. The INFLIBNET Centre signed an MoU with all the 166 universities (142 IX/X Plan Period+ 24 XII Plan Period) on library automation which provides for universities to contribute their bibliographic records of documents available in their libraries to the IndCat: Union Catalogue of the INFLIBNET Centre.

2. IndCat: Union Catalogue of Indian Universities and Databases (<http://indcat.inflibnet.ac.in/>)

Union Catalogue of Indian Universities (IndCat) is a by-product of the library automation of the INFLIBNET Centre wherein universities that are signatory to the MoU on library automation contribute the bibliographic records of documents that are available in their libraries. The scope of the IndCat has now been extended to invite contributions from universities and other institutions that have not signed MoU with INFLIBNET Centre on library automation.

A brief description of three components of the union catalogue i.e. books, theses and serials maintained by the Centre is given below. Fig. 1 depicts current interface of the IndCat.

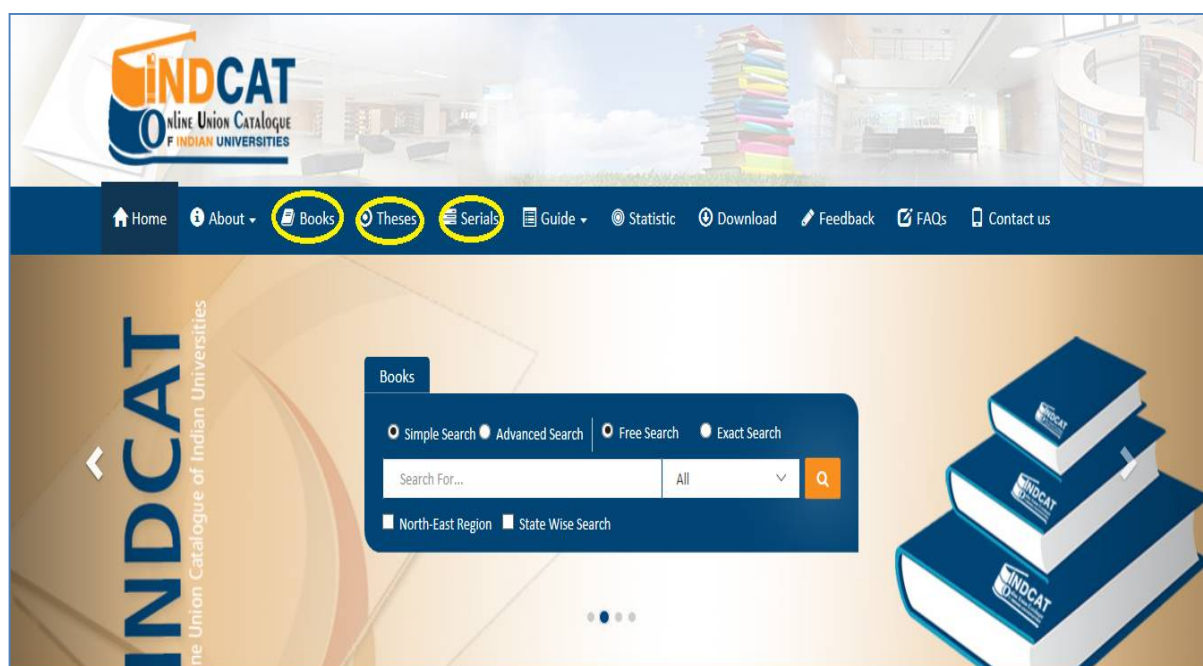


Fig. 1: Interface of IndCat: Union Catalogue of Indian Universities

2.1. Union Catalogue of Books

Abhishek Kumar, Scientist C (CS)

Vaishali Shah, Scientist B (LS)

Miteshkumar Pandya, Scientist B (LS)

Dharmesh Shah, STA (CS)

The Union Catalogue of Book Database covers bibliographic records of books available in the libraries of universities in India. The book database contains 84.19 lakhs unique records of books available in 176 universities/institutes in various disciplines. The book database contains textbooks, reference books, conference, proceedings, monographs, etc. The book database can be searched by different search elements i.e. title, author, ISBN, subject, publisher, Place, etc. Fig. 2 depicts Search Interface for Books.

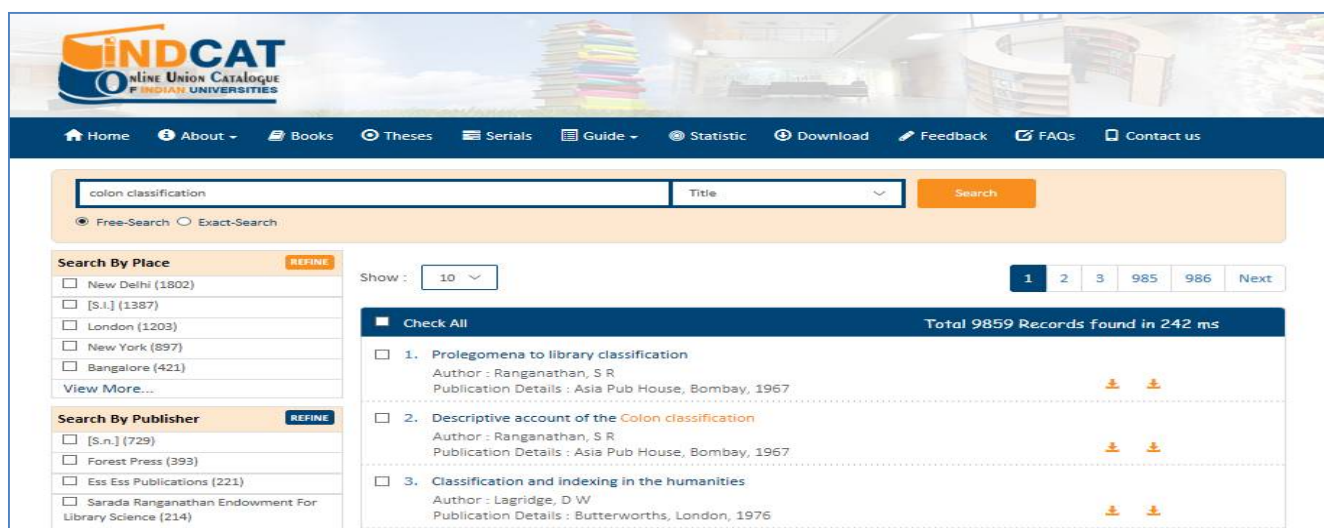


Fig. 2: Search Interface for Books

2.1.1. Process for Building IndCat

Process of building IndCat commences with creation of bibliographic records in participating university libraries and their receipt at the INFLIBNET Centre. Steps involved in building of IndCat database is 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, WIN ISIS, MS-SQL Backup, CCF, MARC, LibSys, SOUL 2.0, etc.

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

Step 3. All records go under the process of authentication, using Union Catalogue Management System (UCMS) software for editing typographical errors in various fields such as place, publisher,

edition, year of publication, etc. in addition to duplicate checking and merging of these records into IndCat. Fig. 3 depicts process involved in building of IndCat.

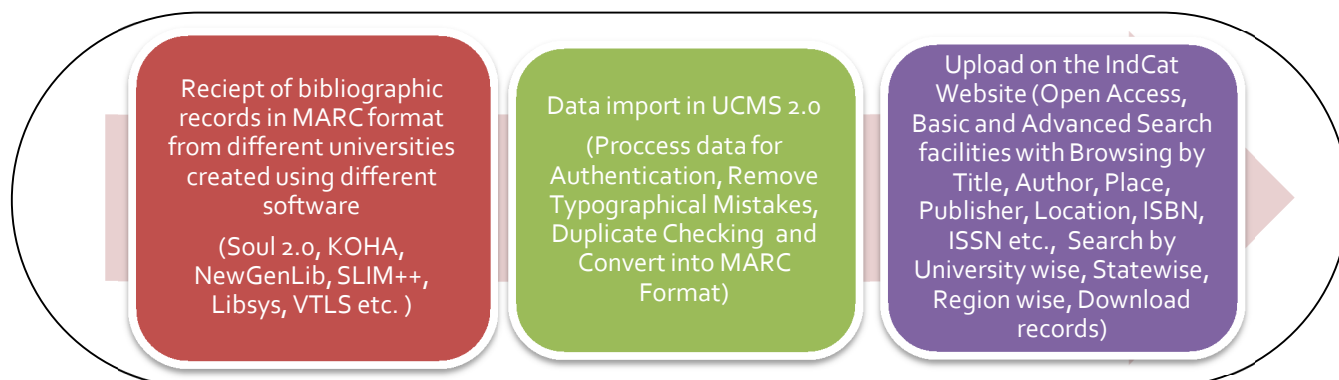



Fig. 3: Process Involved in Building IndCat

Web interface for Book Database of IndCat facilitates it users to conduct searches on title, words in title, author, subject, ISBN, location, place and publisher. The IndCat interface facilitates 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 of documents available in IndCat for all the participating universities. The search results retrieved from the IndCat can be displayed in the following two formats:

- » **Brief:** By default, retrieved records are displayed in brief. A brief bibliographic record contains title, authors, place, publisher and year of publication.
- » **Descriptive:** A detailed descriptive record contains complete bibliographic details of a book including its location. It is a second-level display that appears when a user clicks at the brief record. The descriptive record also provides option for ILL request. Fig. 4 depicts bibliographic details of searched records.



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Download Record:

Plain-Text

Download

Normal View

MARC View

Descriptive account of the colon classification

Title :-	Descriptive account of the colon classification
Author :-	Ranganathan, S R
Language :-	English
Catalogue Agency :-	University of North Bengal
Place & Publisher :-	Bombay, Asia Pub House
Date of Publication :-	1967
Subject Descriptors:-	Library & Information Science

Sr. No.	Holding University	Accession Number	Class Number	ILL Request
1	University of North Bengal	29755	025.43	Request
2	Mohania Sukhadia University	78560CL	2-51N3:g	Request

Fig. 4: Bibliographic Details of a Searched Record

2.1.2. Functions and Features of IndCat

i) Restrict Search within a University / State

Searches in Union Catalogue, by default, is conducted on the entire database containing records of documents from all universities. Users can restrict their searches to the records of documents available within their own university on different search parameters like Title, Subjects, Authors, Place, Publisher, etc.

- » **State wise Search:** User can search the book database within a State by Title, Authors, ISBNs, etc.
- » **Advanced Search:** Advanced search facilitates use of Boolean operators i.e. AND, OR, NOT with different search parameters i.e. Title, Authors, Corporate Body, Place & Publisher, Year, Subjects, Notes, ISBN, etc.

ii) Copy Cataloguing

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

iii) Union Catalogue of Books: Subsets

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

- » The **GujCat**, a subset of IndCat, is unified online library catalogue of books available in major college/institute/university libraries within Gujarat state. GujCat contains bibliographic description, location and holding information of books available in libraries in Gujarat. A separate dedicated web-based interface is designed to provide easy-access to the merged catalogues of libraries in Gujarat. GujCat is a major source of bibliographic information that can be used for inter-library loan, collection development as well as for copy cataloguing and retro-conversion of bibliographic records within Gujarat.
- » The **NERCat**, an online catalogue of books in universities in North-Eastern Region, is another subset of IndCat. NERCat is designed and implemented to restrict searching of bibliographic records to university libraries in North-Eastern region, so as to promote resource sharing amongst university libraries in North-Eastern region.

2.1.3. Bibliographical Records for Books Added during Year 2017-2018

The Centre has received data first time from six universities in different bibliographic formats as per the details given in Table 1 below.

Sl. No.	Name of University	Received Records	Date	Software/Format
1	IIMA (Indian Institute of Management Ahmedabad), Ahmedabad (Gujarat)	1,35,782	16th May 2017	MARC (KOHA)
2	Sardar Patel Institute of Economic & Social Research, Thaltej, Ahmedabad (Gujarat)	44,951	2nd June 2017	MARC (Soul 2.0)
3	Pandit Deendayal Petroleum University (PDPU), Gandhinagar (Gujarat)	25,670	9th June 2017	MARC (KOHA)
4	Jaypee University of Information Technology, Waknaghat (HP)	36,086	22nd Sept 2017	MS-Excel (Liberty)
5	Mahatma Gandhi University, Nalgonda (Telangana)	7,533	5th Sept 2017	Soul 2.0
6	SKV Kachchh University, Kachchh (Gujarat)	14,929	3rd Oct 2017	Soul 2.0
	Total Records Received	2,64,951		

Table 1: Bibliographic Records Received from Six Universities

2.1.4. Merged Bibliographical Records for Books during Year 2017-2018

During the period under report, the Centre has merged bibliographic records of three universities in IndCat using UCMS software, as per the details given in Table 2:

Sl. No.	University Name	Records Received	*Duplicate Records	#Matched Records	+Merged Records
1	Ravenshaw University, Cuttack (Odisha)	89,669	34,468	494	54,707
2	University of Lucknow, Lucknow (UP)	8,736	179	757	7800
3	Sardar Patel Institute of Economic & Social Research (SPIESR), Thaltej, Ahmedabad (Gujarat)	44,476	4,890	592	38,994

Table 2: Merged Bibliographic Records of Three Universities in Union Database (IndCat)

***Records already exist in same university i.e. multiple copies**

#University's records already exist in IndCat Database, only holding information is updated

+Merged records are added to IndCat Database i.e. unique records

2.1.5. Updated Bibliographical Records for Books during Year 2017-2018

Bibliographic records of books for the following six universities were updated in the IndCat as given in Table 3:

Sl. No.	University Name	Updated Records
1	Gauhati University, Guwahati (Assam)	12,161
2	Space Application Centre, Ahmedabad (Gujarat)	33,314
3	Lucknow University, Lucknow (UP)	13,597
4	Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore (Tamil Nadu)	4,777
5	Tripura University, Agartala (Tripura)	9,150
6	Andhra University, Waltair (Andhra Pradesh)	1,60,195
7	University of North Bengal, Siliguri (West Bengal)	77,996
8	Mizoram University, Aizwal (Mizoram)	81,502
Total Updated Records		3,92,692

Table 3: Updated Bibliographic Records of Eight Universities for Union Database (IndCat)

Table 4 given below provides holding records added to the Union Database of Books during the period under report:

Sl. No.	Details	No. of Records added During the year 2017-2018
1	Unique Records	1,01,501
2	Holding Records	1,843

Table 4: Bibliographic Records Authenticated and Merged in Union Database (IndCat)

2.1.6. Growth of Union Catalogue of Books

Building and maintaining a union catalogue is an ongoing activity involving collaboration of all participating libraries. The Union Catalogue of Books is essentially an outcome of financial and logistic support that was extended 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 on integrated library management software including SOUL, the union Catalogue of Books has witnessed a rapid growth. The union catalogue of books has grown from 6.5 lakh records in 1999 to 141 lakh records in 2018 as depicted in Table 5 and Fig. 5 given below:

Year	Received Records (in lakhs)	Unique Records (in lakhs)
1999	6.5	2.7
2003	12	5.8
2007	82	30.3
2011	119	61.8
2013	127	73
2014	128	74
2015	131	75.7
2016	139	80.68
2017	139	83
2018	141	84.19

Table 5: Growth in No. of Bibliographic Records in IndCat from 1999 to 2018

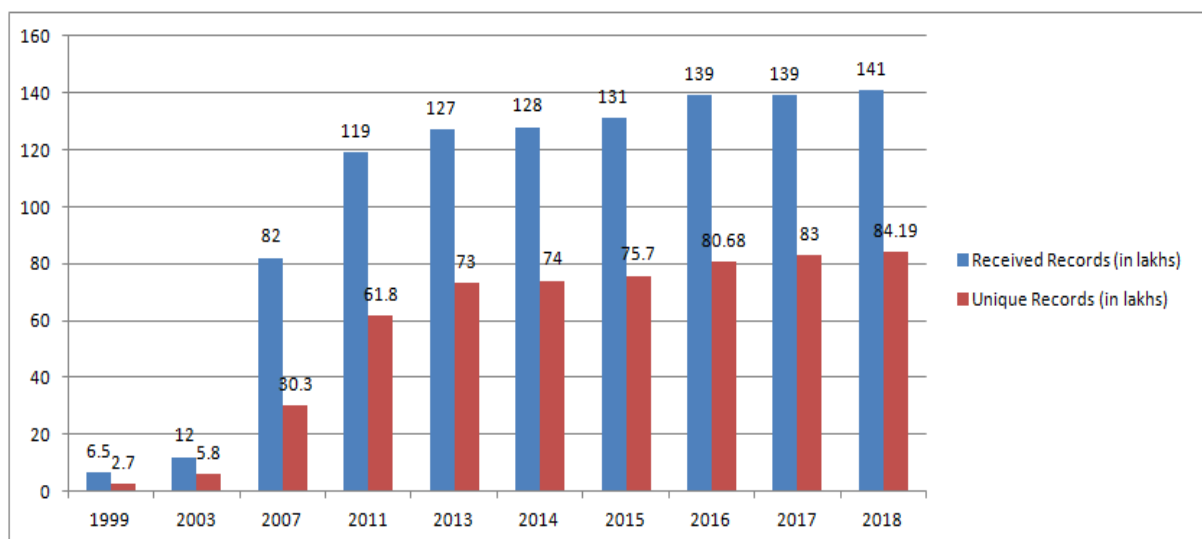


Fig. 5: Growth of Union Catalogue of Books

The union catalogue of books has bibliographic records of documents available in libraries of 184 contributing universities. Category-wise participating universities is given in Table 6 and depicted in Fig. 6.

Categories-wise University List	No. of Univ.
12 (B) / 2 (f) State Universities	111
Central Universities	23
Deemed Universities (Receiving Plan Grants from UGC)	20
Centrally Funded Technological Institute	8

2 (f) State Universities	7
Categories-wise University List	No. of Univ.
Deemed Universities	4
Open University	1
Private Universities	4
Others	6
Total Participated Universities	184

Table 6: Category-wise Participating Universities

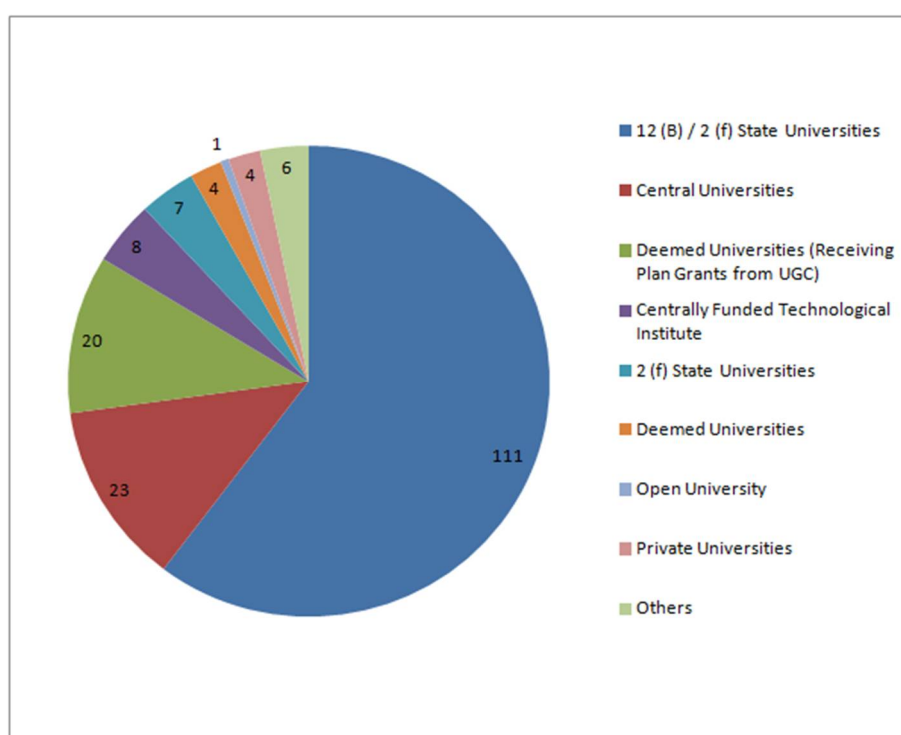


Fig. 6: Category-wise Participating Universities

2.1.7. Online Copy-Catalogue System (OCS)

The Centre has developed application software called “**Online Copy-Catalogue System**” (OCS) to promote co-operative cataloguing and avoid duplication of efforts. The interface called “Online Copy Catalogue System (OCS)” is a window-based application that facilitates libraries to interact with the Union Catalogue of Books (IndCat) and catalogue their new acquisitions online. The OCS, on one hand, facilitates libraries to search and browse bibliographic records of documents available in IndCat and download selected records directly into SOUL 2.0 or any MARC21 compliant software. The holding information for the bibliographic record being downloaded from the IndCat gets updated automatically in the process. On the other hand, the interface facilitates creation of a new record for a document that is not available in the IndCat. This new record gets saved into local integrated LMS as well as into the IndCat simultaneously. Besides, online cataloguing and copy

cataloguing, the interface also facilitates bulk uploading and downloading of bibliographic records of books. More details on OCS are available at: http://indcat.inflibnet.ac.in/includes/UserGuide_OCS.pdf

2.1.8. Major Works during Financial Year 2017-2018

- ▶▶ 6 universities contributed their bibliographic records in 1st phase for IndCat;
- ▶▶ 8 universities contributed their updated bibliographic records;
- ▶▶ Bibliographic records for 3 universities were checked, authenticated, converted and merged in IndCat;
- ▶▶ The Centre launched beta version of “Theses and Serials Databases” on a new platform to facilitate faster access and enhanced users preference including faceted search and filtered search on different parameters, i.e. university-wise, department-wise, subject-wise, publisher-wise, etc. and combination of these parameters. The Centre launched beta version of union catalogue on a new platform which includes all databases i.e. book, theses, serial and CEC’s Video records. Through this version, universities may update their records directly by logging into system; and
- ▶▶ Features and functionalities of UCMS were further enhanced. Significant improvements were made in the process of merging of bibliographic data and process of exporting bibliographic records from CCF to MARC format with holding details i.e. university location, etc.

2.1.9. Union Catalogue of Serials

Dinesh Ranjan Pradhan, Scientist B (LS)

The INFLIBNET Centre maintains union database of serials that provides bibliographic information of journals subscribed in various universities and maintains the information in three categories, namely; i) Serials Holdings ii) Current Serials and iii) e-journals.

“Serials Holdings” provides data on library holdings, i.e. back files of journals and their availability in various university libraries, ii) “Current Serials” provides titles of the serials that are currently subscribed by the universities in print format and iii) “e-journals” that are: a) currently subscribed by the participating universities in electronic formats; b) journals subscribed under the e-Shodh Sindhu in electronic format; and c) ejournals available in open access mode.

The Serials Database includes bibliographic information of serials (including journals, periodicals, annuals and serials) available in 223 universities / institute libraries along with its holdings information (includes available and missing volumes of the journals) in participating libraries. The serial database has over 35,248 unique titles with holdings information for 223 universities. Each bibliographic record for serials contains title, publisher, frequency, year of publication, homepage URL and subject headings along with holdings details and names of the universities.

2.1.10. Union Catalogue of Theses

Abhishek Kumar, Scientist C (CS)
Miteshkumar Pandya, Scientist B (LS)
Dharmesh Shah, STA (CS)

The Union Catalogue of Theses consists of bibliographic records of doctoral theses submitted to the universities in India. The database contains 2,74,622 unique bibliographic records of the theses awarded by 317 Indian universities / institutions of higher learning in all disciplines. The bibliographic records of theses are contributed by participating universities. Besides, records in the database have also been collected from other reliable sources such as notification from universities, University News and Records submitted by the individual researchers.

The compilation of Union Catalogue of Theses commenced in 1995 with 52,000 bibliographic records of theses from 82 universities. The database has grown to 2,74,622 records of theses as on 31st March, 2018 from 317 universities over a period of 24 years.

The Centre receives a copy of notification on award of Ph.D. theses from different universities across the country. Table 7 and Fig. 7, given below depict growth of theses database from 1995 to March 2018.

Year	No. of Universities	No. of Records	Year	No. of Universities	No. of Records
1995	82	52,000	2007	213	1,75,206
1996	95	65,000	2008	237	2,20,206
1997	110	72,000	2009	237	2,20,206
1998	134	90,000	2010	237	2,37,393
1999	149	1,15,000	2011	245	2,38,475
2000	160	1,28,000	2012	270	2,44,927
2001	172	1,35,000	2013	286	2,52,885
2002	189	1,42,000	2014	298	2,64,628
2003	198	1,48,000	2015	301	2,65,727
2004	209	1,52,000	2016	315	2,69,195
2005	211	1,71,176	2017	315	2,71,581
2006	213	1,75,206	2018	317	2,74,622

Table 7: Growth in Number of Records in Theses Database: 1995 – 2018

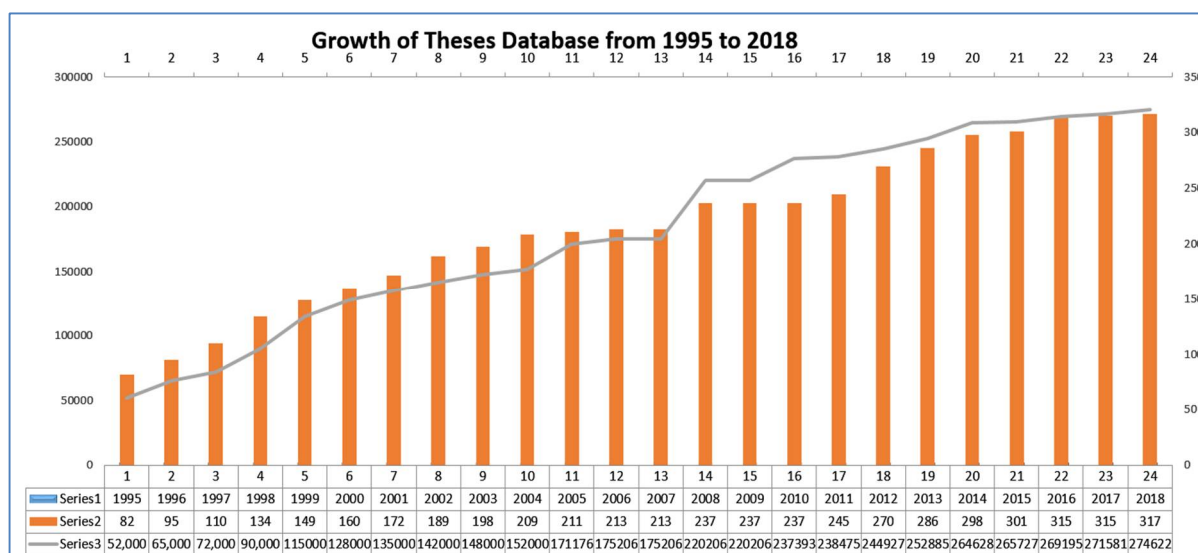


Fig.7: Year-wise Growth of Theses Database

Theses database can be searched through IndCat interface by title, researcher, research supervisor, university, department, year of submission, keywords, etc. Bibliographic records of theses are linked to full-text records in "Shodhganga", if available.

2.2. Research Projects Database (<http://www.inflibnet.ac.in/researchproject/>)

Gaurav Prakash, Scientist B (CS)

Kuldeep Matieda, Project Officer (LS)

The Research Project Database provides details of completed and ongoing projects carried out by faculty members working in universities and institutions across the country. As on 31st March 2018, 40 records were added in the database which has increased the total records in the database up to 15,534. The Centre gets project details along with the project reports in print/digital formats from the project investigators of Minor Research Projects (MRP) funded by the UGC. The softcopy and print copy of the project reports are available at the INFLIBNET Centre for walk-in users. Project Investigators of the UGC-funded Minor Research Projects (MRP) were requested to submit softcopies and print copies of their project reports. Project Investigators, whose project reports were received, are acknowledged and their project details were added into the database available at (<http://www.inflibnet.ac.in/researchproject/>).

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

Yatrik Patel, Scientist D (CS)

Divyakant Vaghela, Scientist B (CS)

Swapnil Patel, Scientist B (CS)

Nrutik Prajapati, Project Officer (CS)

The SOUL 2.0 (Software for University Libraries) is state-of-the-art integrated library management software designed and developed by the INFLIBNET Centre based on requirements of colleges,

universities and other academic libraries. It is user-friendly software developed to work under client-server environment. The software is compliant to international standards for bibliographic formats and circulation protocols. After a comprehensive study, discussions and deliberations with the senior library professionals of the country, the software was designed to automate all house-keeping operations in a library. The software is suitable for the academic libraries as well as for all kinds of other libraries. SOUL 2.0 is compliant to international standards such as MARC 21 for bibliographic format, Unicode based Universal Character Sets for multilingual bibliographic records and NCIP 2.0 and SIP 2 based protocols for RFID, electronic surveillance and control.

The SOUL 2.0 was released in January 2009 and was well received by the academic libraries in India. During the year under report, several minor enhancements were made in reporting and other functionalities. New updates of the software are made available through the SOUL 2.0 website at no additional cost to existing users. As on 31st March, 2018, the software was supplied to 3,492 institutions across the country.

SOUL 2.0 was adopted by the Directorate of Libraries for all their public libraries as well as by the Department of Technical Education, Government of Gujarat. State Governments of Madhya Pradesh, Haryana and Andhra Pradesh have also adopted SOUL 2.0 software for automating their public and academic libraries.

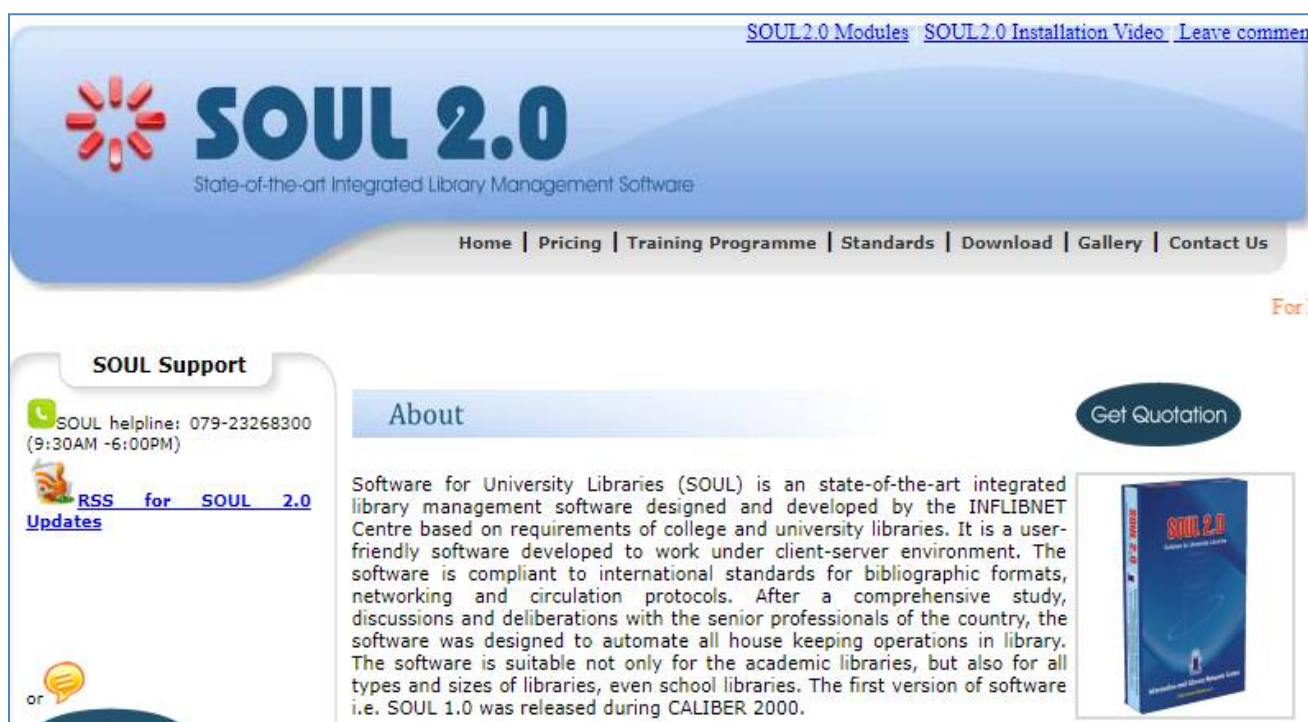


Fig. 8: Website for SOUL 2.0

A separate website, shown in Fig.8, is maintained by the Centre that provides detailed information about SOUL 2.0 along with the updates of software.

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

3.1. Customization of SOUL 2.0, Data Conversion and Transfer

Yatrik Patel, Scientist D (CS)
Divyakant Vaghela, Scientist B (CS)
Swapnil Patel, Scientist B (CS)

Customization of the SOUL 2.0 software is offered on payment basis as per the requirement of libraries. Under this offer, SOUL 2.0 can be customized according to the requirements of a library. The Centre has customized SOUL software for many institutes including major universities namely, Banaras Hindu University, Varanasi, Maharaja Sayajirao University, Baroda, Gujarat Vidyapith, Ahmedabad, etc. The Centre also provides upgrades to the user institutes along with their respective customized version of software.

The Centre provides SMS Server application that facilitates libraries to send SMS through SOUL 2.0 application using SMS Gateway on payment basis. 20 institutions have started using SMS Server application services integrated with SOUL 2.0 as customised option.

The Centre has developed a customized web interface for Maharaja Sayajirao University that facilitates students to register as a library user, which, in turn, can be approved by the administrator after completing verification process.

The Centre also undertakes jobs for converting client's existing data from any format to MARC21 format for importing it into SOUL 2.0 on payment basis. During the year under report, the Centre has converted data from different format i.e. MS Excel, MS Access, MS SQL, PostgreSQL, ISO / LibSys, etc. to MARC21. About one lakh bibliographic records from 5 different institutes were processed and converted into MARC21 format.

The Centre also offers data conversion service to new users of SOUL, free-of-cost, if data volume is less than 10,000 records.

Technologies: Visual Studio.Net, Microsoft SQL Server 2005, Microsoft Office

3.2. SOUL-Web Edition

Yatrik Patel, Scientist D (CS)
Divyakant Vaghela, Scientist B (CS)
Swapnil Patel, Scientist B (CS)
Priya Madnan, Project Associate (CS)
Dashrath Chauhan, Project Assistant (CS)

The Centre is in the process of developing web-based version of SOUL based on the requirement collected from user community. The web edition of SOUL would be platform-independent that would run on any operating system (i.e. Linux, Windows). Any browser could be used as client so that user can work on any device independently e.g. desktop, laptop, mobile, tablet, etc. Moreover,

SOUL web edition could be hosted on cloud platform. SOUL (Web edition) is based on Representational State Transfer (REST) protocol, which relies on a stateless, client-server, cacheable communication protocol and in virtually all cases, the HTTP protocol is used. Web-based SOUL can be configured in any language for performing housekeeping operations.

During the period under report, REST based services for the Administration, Acquisition, Catalogue and Circulation Modules of SOUL Software have been completed.

Technologies: Java, JSP, MySQL, REST protocol (JAX-RS), Apache Tomcat, Visual SVN

3.3. SOUL New Version (For Microsoft Windows 8 and above)

Yatrik Patel, Scientist D (CS)
Divyakant Vaghela, Scientist B (CS)
Swapnil Patel, Scientist B (CS)

The Centre has started working on new version of SOUL software using latest technologies. New version of SOUL for Microsoft Windows 8 and above would be compatible with Microsoft.Net Framework 4.5 and Microsoft SQL Server 2014 or later version. The software has the state-of-the-art Graphical User Interface wherein user can create or choose theme for his / her account. Users would be able to change the font size and other parameters as per their requirement for better visual and performance experience. The new version would have built-in facility of sending SMS / email for each circulation transactions along with several enhancements. The new version of SOUL would be responsive. As such, it will be compatible with touch screen laptops / tablets.

During the period under report, development of interfaces for Administration, Circulation, Acquisition module, Serial Control is in progress.

Technologies: Microsoft Visual Studio 2015, WPF, MS SQL 2014, Microsoft Platform

3.4. SOUL Software Sold and Upgraded for Existing Users

H G Hosamani, Scientist C (LS)
Hema Cholin, STO (LS)
Shrimali Vijaykumar, STA (CS)

As depicted in Fig.9, a total number of 140 copies of SOUL Software were sold during the year under report, which includes 116 copies of Limited Edition and 24 copies of Full Edition. 22 copies of SOUL 2.0 Software were offered free-of-cost to the users of SOUL 1.0, which includes 9 copies of Limited Edition and 13 copies of Full Edition.

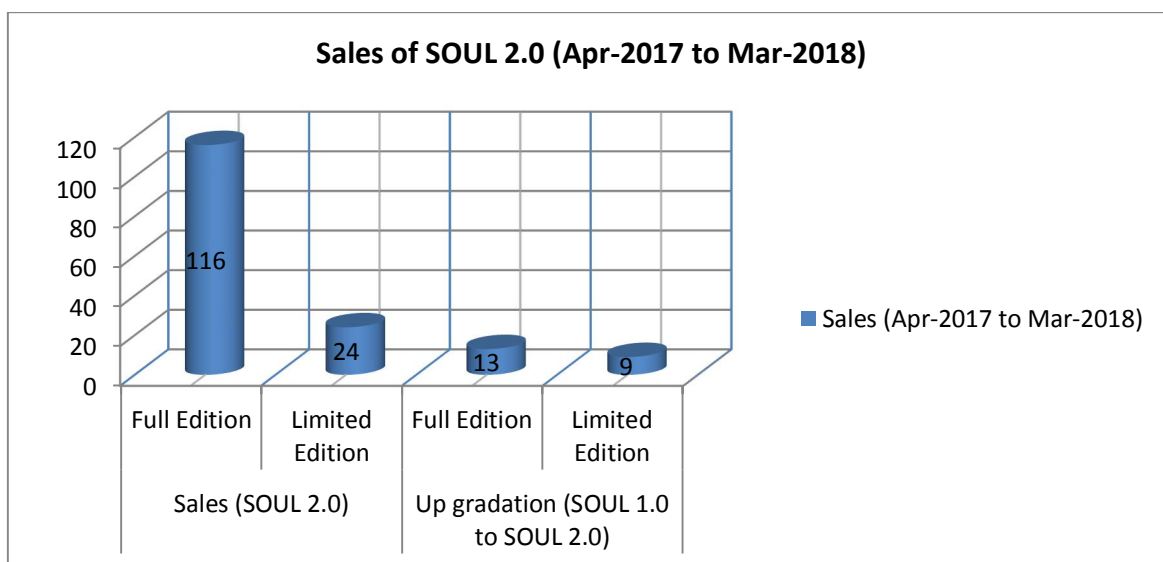


Fig. 9: SOUL 2.0 Software Sold and Upgraded for Existing Users

3.5. SOUL Support Services

3.5.1. SOUL Support Cell at INFLIBNET Centre

SOUL Support Cell is a joint activity of Software Development Group and Human Resource Development Group. The SOUL Support Cell helps in handling queries and troubleshooting pertaining to SOUL software, its installation and usage for a user base of 3,492 across the country as per the details given in Appendix VI. The SOUL Support Cell coordinates with the SOUL users and SOUL developers for resolving queries regarding SOUL software and customization issues raised by them. The SOUL Support Cell consists of staff members with library and computer science background. The tools used for handling queries are mentioned below and depicted in Fig. 10.

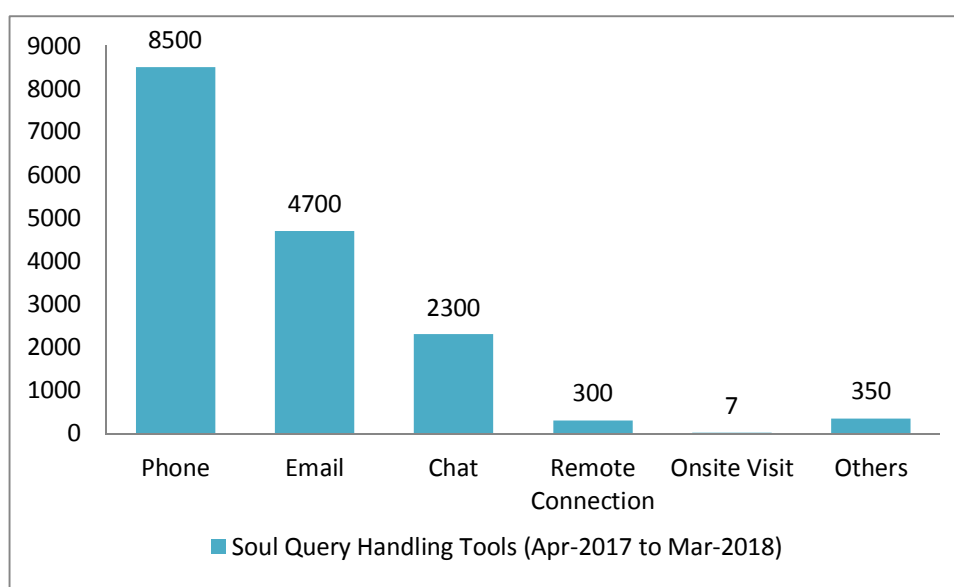


Fig. 10: SOUL Query Handled by SOUL Technical Assistants

Telephone Helpline: The Centre has a dedicated telephone line (079-23268300) for handling queries from SOUL users.

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

Remote Connection: SOUL Support Cell uses software such as AnyDesk, Teamviewer, ShowMyPC, etc. to remotely connect the User's SOUL server to view and solve the problems in real time. This method is used for fixing the problem when all other methods of solving the problems do not provide desired results.

Onsite Visit: Besides all above methods of solving queries, SOUL Support staff also visits the Institutes of SOUL users in case every other method could not resolve the problem and also if user wants SOUL Technicians to install and upgrade the SOUL at their Institute.

Frequently Asked Questions (FAQs): FAQs were developed based on prolonged experience of SOUL Technicians. FAQs are answered with screenshot and step-wise solution to the queries that are being asked frequently. These FAQs are available on SOUL Web site at: www.inflibnet.ac.in/soul/faq.htm.

Soul Query Management System (SQMS): The Centre has developed a new software called "Soul Query Management System (SQMS)" that helps to keep track of problems and queries from all active user of SOUL Software. This software helps to serve the users more efficiently by keeping record of the queries, its status and solution offered, which can also help to solve queries from other users.

Documentation and Updates: Users can download flow charts for every SOUL 2.0 module and e-book version of User Manual to learn the operations of SOUL 2.0 on their own from the SOUL Software website. User can also download SOUL 2.0 Demo Version (up to 500 entries) and can practice on SOUL 2.0. Besides, minor updates of SOUL 2.0 can also be downloaded from the website free-of-cost which facilitates users to keep their SOUL2.0 software updated.

3.5.2. SOUL Regional Support Services

The Centre has appointed eight SOUL Coordinators in different geographical regions of the country to coordinate the activities of SOUL promotion and maintenance. Each SOUL Coordinator employs two to three technical assistants so as to provide proactive support to SOUL users in their respective regions. Besides, INFLIBNET Centre coordinates activity of maintenance and promotion of SOUL Software in the state of Gujarat and Rajasthan with help of Soul Technical Assistants deployed at INFLIBNET Centre. SOUL Coordinators are responsible for providing maintenance support to the existing users as well as for promoting the software to the new users. Names and contact details of the SOUL Coordinators are given below in Table 8.

Name	Address/Phone No. / Email/ State
Prof. C. P. Vashishth	Delhi, Haryana, Punjab, Uttra Pradesh, Bihar, Uttrakhand, Himachal Pradesh and Jammu & Kashmir
	28-B, Pocket 'A' MIG Flat Ashok Vihar, Phase III, Delhi – 110 052 Ph. No. : 011-25774507 (O) 011-27112721 (R) Email: cpv_36@yahoo.co.in
Dr. Sanjay Singh	North Eastern Region – I (Assam, Meghalaya and Sikkim)
	Deptt. of Library and Information Science Guahati University, Guwahati- 781014, Assam Mob. : 09435040402 Email: sksgu1@gmail.com
Mr. Lalchatuana Ralte	North Eastern Region – II (Mizoram, Nagaland, Manipur and Tripura
	Librarian, Govt. Hrangbana College, Aizawl-796007, Mizoram Ph. No: 09436355362 Email : librarian5923@rediffmail.com
Dr. Dharamraj Kalyanrao Veer	Maharashtra and Goa – I
	University Librarian Dr. Babasaheb Ambedkar Marathwada University Aurangabad University Campus, Aurangabad – 431004, Maharashtra Mob.: 09423958150 Email: dk.veer@rediffmail.com
Mrs.Nalini A Raja	Maharashtra and Goa - II
	302, Hari-Kripa, L.T.Road, Borivali (W), Mumbai - 400 092 Maharashtra Mob.:09920790757 E-mail:nalini99@gmail.com
Mr.Rakesh Kumar Khare	Madhya Pradesh and Chhattisgarh
	Govt. Girls College, Sehore Near Bhopal Naka, Sehore - 466001, Madhya Pradesh Mob. : 099265 35452 Email: soul.rakesh@yahoo.in
Mr. J. Laxma Reddy	Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Pondicherry and Kerala
	University Librarian (I/C) Mahatma Gandhi University, Nalgonda -508254, Telangana Mob. : 099081 15333 Email: clicngc@gmail.com
Mr.Biswajit Bhattacharya	West Bengal, Odisha and Jharkhand
	Librarian, Bidhan Chandra College, Asansol-713304, West Bengal Mob. :09735737381 Email: biswajit.asn@gmail.com and soulhelpeast@gmail.com
Mr. H G Hosamani	Gujarat and Rajasthan
	Scientist C (LS), And his Team of the SOUL Support Cell INFLIBNET Centre, Infocity, Gandhinagar -382007, Gujarat Ph. No. : 079-23268300 E-mail: soulhelp0007@gmail.com

Table 8: Names of SOUL Coordinators with their Contact Address

4. Open Access and Open Data Initiatives

The current system of scholarly communication inhibits rather than promote access to scholarly information at a time when technology can enable vast improvement in access, speed of publication and save the cost of publication. The open access has emerged as a promising alternative to the current model of scholarly publishing that provides free access to scientific information to its users. The essential premise of open access movement is that the scientific community and society in general benefits from the open exchange of ideas and information unaffected and unencumbered from the limitations of subscription costs, licensing arrangements and copyright inherent to the traditional model of commercial journal publishing. Open access journals and institutional repositories are two routes of open access publishing system.

The open access initiatives at the INFLIBNET Centre are launched with an aim to spread open access movement in universities and institutions of higher learning. The Centre continued all the initiatives that were started in the previous years. These initiatives as described below:

4.1. Open Journal Access System (OJAS) (<http://www.inflibnet.ac.in/ojs/>)

Gaurav Prakash, Scientist B (CS)

Mohit Kumar, STA (CS)

The INFLIBNET Centre has installed and configured Open Journal System (OJS), open source software for electronic publishing of the journals, to facilitate hosting of electronic version of journals into open access mode with all processes of submission, peer-reviewing, editing, layout designing and publishing built into it.

The Centre reviewed quality of journals that are hosted on OJAS as well as its relevance in times when predatory or questionable journals are mushrooming in India. After detailed discussions and deliberations, it was resolved to withdraw OJAS as a platform free-of-cost to the academic community from March 2018 onwards for reasons mentioned below.

- i) Most of the requests received for hosting of journals on OJAS platform lack quality content, as such 70% of the proposals received for hosting are being rejected;
- ii) Out of the 18 journals hosted on OJAS, 6 journals are updated regularly, remaining 12 journals are irregular, some of them have not been updated for years; and
- iii) Most of the publishers/editors of the journals hosted on OJAS are keen to make use of affiliation with the Centre. Publisher/editors do not make efforts to update their journals after its initial hosting on OJAS.

It was, however, resolved that the services offered by OJAS would be made available to universities and institutions of higher learning for hosting electronic version of their journals on payment basis.

4.2. Shodhganga: A Reservoir of Indian Theses & Dissertations (<http://shodhganga.inflibnet.ac.in>)

Manoj Kumar K., Scientist D (CS)

Swapnil Patel, Scientist B (CS)

Suboohi Siddiqui, STO (LS)

Kuldeep Mateida, Project Officer (LS)

Rajeshri Makwana, Project Officer (LS)

Neha Jain, Project Associate (LS)

Tejal Karetha, Project Associate (CS)

Shodhganga is a digital repository set-up for submission of electronic versions of theses and dissertations by students / research scholars in universities in India and make them available in open access to the world-wide academic community in response to the UGC Notification (Minimum Standards & Procedure for Award of M.Phil. / Ph.D Degree, Regulation, 2009 and amendment made in 2016) where-in the responsibility of maintaining the digital repository of Electronic Theses and Dissertations (ETDs) is assigned to the INFLIBNET Centre. Shodhganga is set-up using DSpace, an open source software, that uses internationally recognized protocols and interoperability standards. The repository provides a platform to research scholars in universities to deposit, re-use and share their theses and dissertations. Fig. 11 depicts the homepage of Shodhganga website.



Fig.11: Shodhganga Website

Organisation of theses in Shodhganga reflects the academic structure of every university in the country which offers Ph.D. programme to facilitate the scholars to submit their theses in the respective Departments / Centres / Colleges of their Universities. Ingestion interface of DSpace was

customized to meet the specific requirements and make the process of submission easy. The customized ingestion interface is simple to use and involves lesser number of steps in comparison to default submission interface of DSpace developed by HP and MIT. The interface facilitates submission of theses either by university administrators, university representatives or researchers. The interface also facilitates self-registration of scholars wherein the user gets e-mail alerts and notifications at different stages of workflow. The Shodhganga website provides information that is helpful to the researchers, research supervisors and university authorities with regard to ETDs including their responsibilities, access policies, submission process, metadata structure, guideline for submission, tutorial, manual, etc.

Shodhganga provides four types of searches in its homepage vis-à-vis simple search, advanced search, Google search and subject search. Besides default search and browse options provided by the DSpace, a subject-based browse and search interface is embedded into Shodhganga consisting of six 6 major subject categories at the first level and 28 subject categories at the second level. The major six subject categories are Arts and Humanities, Clinical, Pre-Clinical and Health, Engineering and Technology, Life Sciences, Physical Sciences and Social Sciences. The search can be extended to micro-level for more precision on the subject domain using LCSH (Library of Congress Subject Heading List). Fig. 12 depicts subject search interface of Shodhganga.

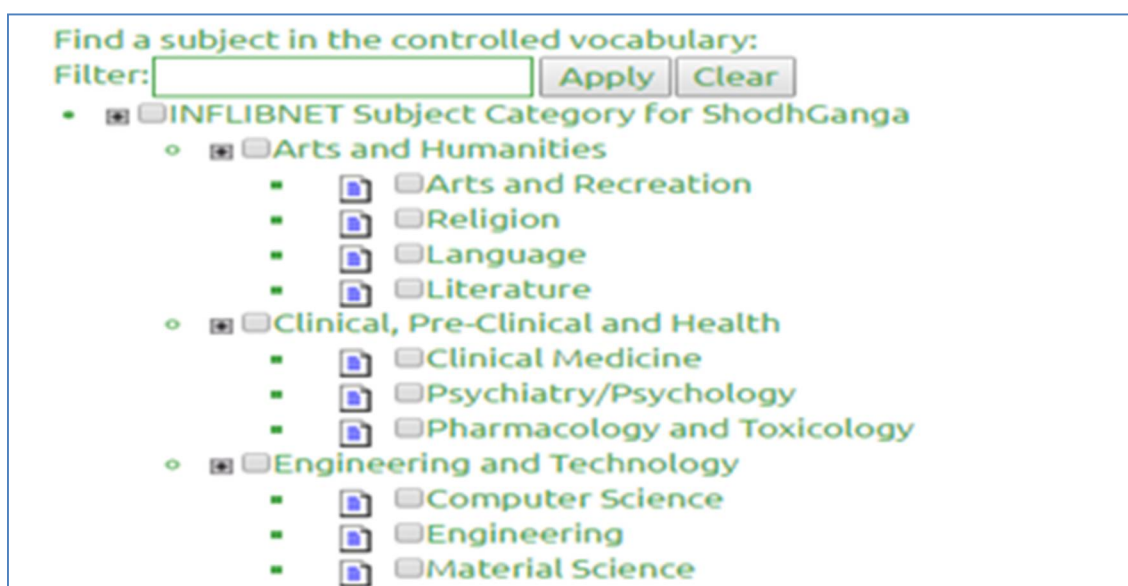


Fig. 12: Subject Search Interface of Shodhganga

Considering the fact that the process of adaptation of the UGC Notification may take time for universities, research students are also encouraged to submit electronic version of their Ph.D. theses into the Shodhganga on voluntary basis. As such, students from different universities (who have not signed the MoU) are submitting electronic version of their theses into the repository on voluntary basis. However, once a university mandates the submission of theses, it can monitor the process of submission of theses and ensure that correct and final versions of all the theses are submitted into the Repository. Universities, while signing MoU with INFLIBNET Centre, are granting non-exclusive rights to INFLIBNET Centre for hosting their ETDs in Shodhganga. As on

31st March 2018, 375 universities have signed MoU with the INFLIBNET Centre including 67 universities who have signed MoU on Shodhganga with INFLIBNET Centre during the year under report. List of universities who have signed MoU with the INFLIBNET Centre on Shodhganga is available at:

http://shodhganga.inflibnet.ac.in/annual_report/mou2017_2018.pdf

Besides, several universities have also started contributing their theses into Shodhganga repository as per the UGC Notification without signing MoU. A list of 40 such universities who contributed their theses into Shodhganga without signing an MoU is available at http://shodhganga.inflibnet.ac.in/annual_report/contributing_wo_mou.pdf. Total number of theses submitted into the repository has grown to 1,87,000 as on 31st March 2018. Fig. 13 depicts year-wise theses submission into Shodhganga. Fig. 14 depicts Month-wise submissions into Shodhganga during the period under report.

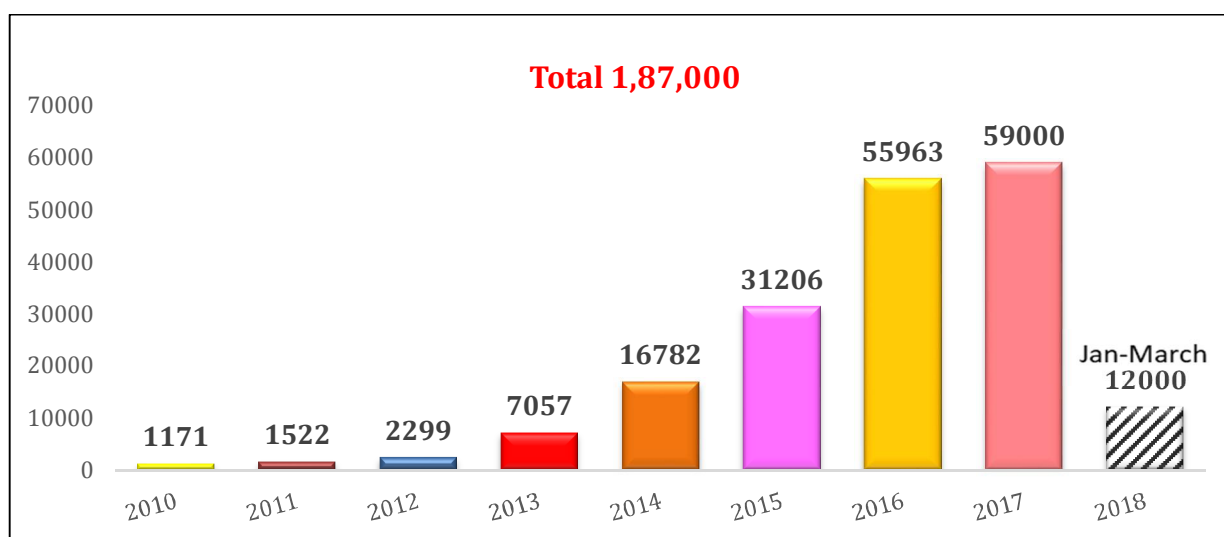


Fig. 13: Year-wise Theses Submission into Shodhganga

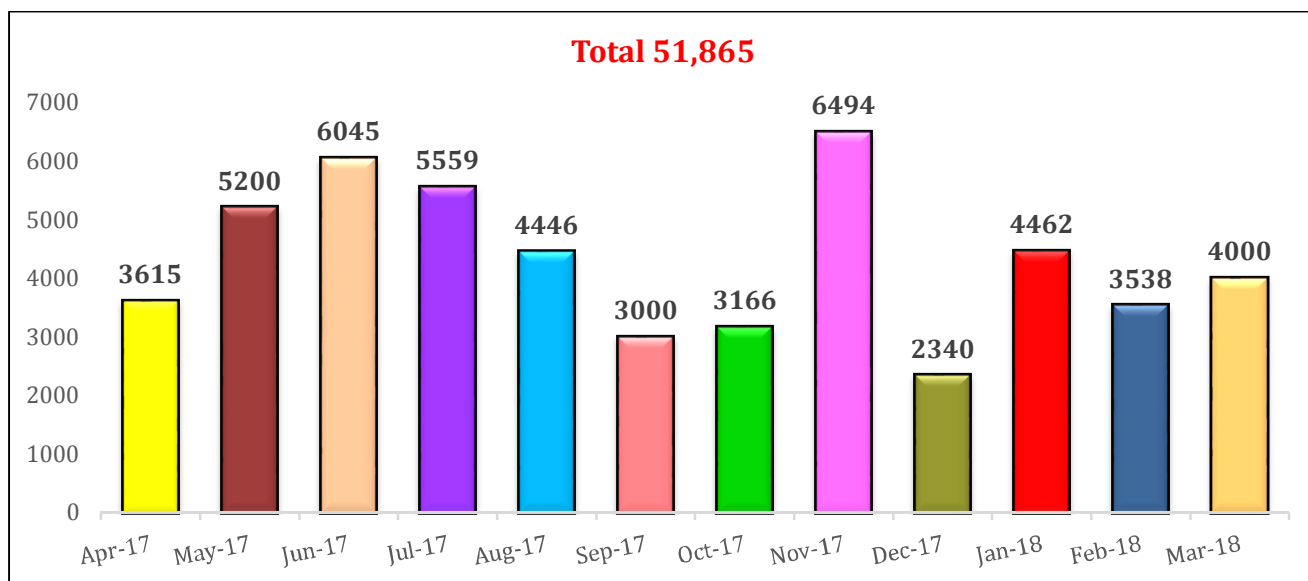


Fig 14: Month-wise Theses Submission into Shodhganga

4.2.1. Incentives to Universities for Signing MoU on Shodhganga with INFLIBNET Centre

The UGC provides following three incentives to eligible universities that are signatory to MoU on Shodhganga:

- a. Funds for digitization of back list of theses available in universities;
- b. Funds for setting-up of ETD Laboratory in eligible universities; and
- c. Extending access to plagiarism detection software package in member universities.

The funds were released by UGC to eligible universities on recommendations of the INFLIBNET Centre as per the guidelines approved by a Committee of Experts or by the Competent Authority.

4.2.2. Funds Released to the Universities and to the INFLIBNET Centre under Shodhganga Scheme

The INFLIBNET Centre recommended release of Rs 14.00 crores (approx.) to 96 universities who have signed MoU on Shodhganga. The UGC has released Rs 11.42 crores to 80 eligible universities till 15th March 2017 for digitization of backlist of theses as well as for setting-up of ETD Laboratories in their respective universities. Release of Rs 2.57 crores is pending for 16 eligible universities.

In addition, the UGC released Rs.1.40 crores to the INFLIBNET Centre during FY 2016-17 for subscription to plagiarism detection software for universities as well as for meeting other expenses including contractual manpower, hardware, training, workshops, travel, etc.

4.2.3. CC BY-NC-SA 4.0 Licence for Shodhganga

Taking cognizance to the recommendations of the National ETD Committee and resolutions adopted during iETD Conference 2017 held at INFLIBNET Centre, licensing and copyright issues of Shodhganga were re-addressed to incorporate open access licencing arrangements and amend respective clauses of the MOU that is being signed with universities. It was resolved to adopt Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License for use of content available in Shodhganga repository unless otherwise specified as per the details available at <https://creativecommons.org/licenses/by-nc-sa/4.0/>. Terms and conditions of Creative Commons Attribution-Non Commercial-Share Alike 4.0 would be duly incorporated in the clauses of MoU on Shodhganga.

4.2.4. Subscription to URKUND: Plagiarism Detection Software

The INFLIBNET Centre provides access to URKUND: a plagiarism detection software to eligible universities that are covered under Sections 12(B)/2(f) of the UGC Act and have signed MoU on Shodhganga with INFLIBNET Centre. 175 eligible universities were provided access to URKUND software during the year under report. List of universities having access to URKUND software is

available at http://shodhganga.inflibnet.ac.in/annual_report/urkund.pdf. Fig.15 depicts month-wise submissions of theses for plagiarism check in URKUND from April 2017 to March 2018. An average number of **11,093** submissions per month are made to URKUND for plagiarism check during the FY 2017-18.

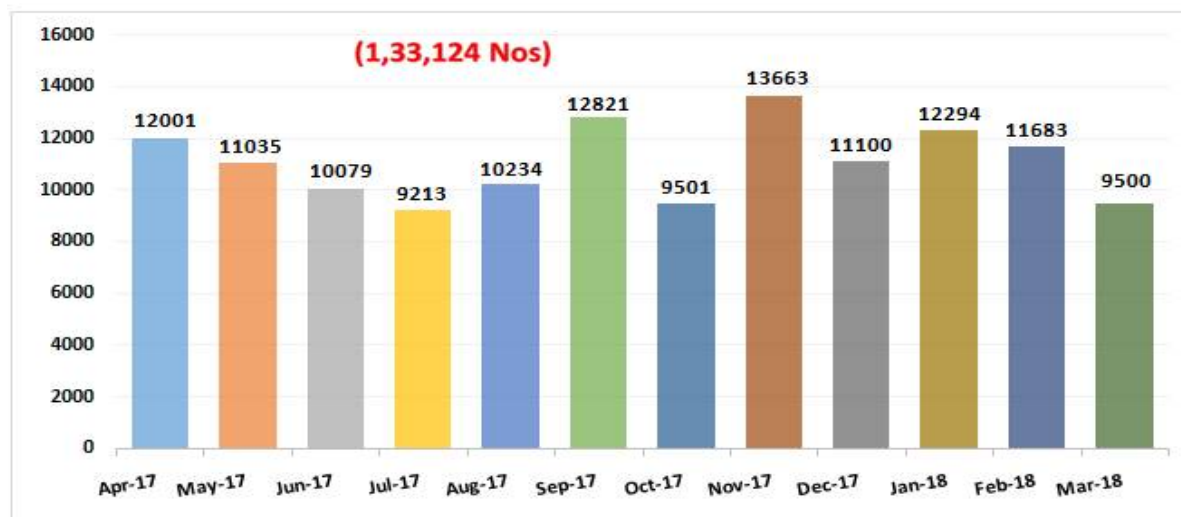


Fig.15: Submissions to URKUND for Plagiarism Check (April 2017 to March 2018)

4.2.5. Usage Statistics of Theses from Shodhganga

Usage of theses hosted in Shodhganga repository by academic community across the world is monitored by the Centre with an aim to measure its usage as well as for load balancing of the server. General statistical of Shodhganga including month-wise page views, theses views, department views, university views and website views are shown below in Table 9. The usage has considerably increased with hosting of repository on robust infrastructure. Yearly usage summary for Shodhganga for FY 2017 – 18 is given in Fig.16.

Views in Lakhs	Apr'17	May'17	Jun'17	Jul '17	Aug'17	Sep'17	Oct'17	Nov'17	Dec'17	Jan'18	Feb'18	Mar'18	Total
Page Views	376.81	339.85	241.56	267.03	308.46	343.18	309.68	353.84	493.02	570.33	434.6	355.83	4394.19
Theses Views	43.57	53.22	47.24	49.76	46.73	33.94	41.17	43.69	35.23	31.07	30.11	33.34	489.07
Deptt. Views	7.68	8.05	7.25	8.93	7.81	6.89	12.11	14.82	10.24	10.8	10.59	10.92	116.09
Univ. Views	3.39	3.51	3.38	3.78	3.18	2.71	3.32	3.85	4.1	4.3	4.28	10.92	50.72
Searches	25.37	26.72	24.21	23.83	30.11	24.24	25.15	38.95	4.1	38.36	37.92	33.36	332.32

Table 9: Month-wise Usage Shodhganga

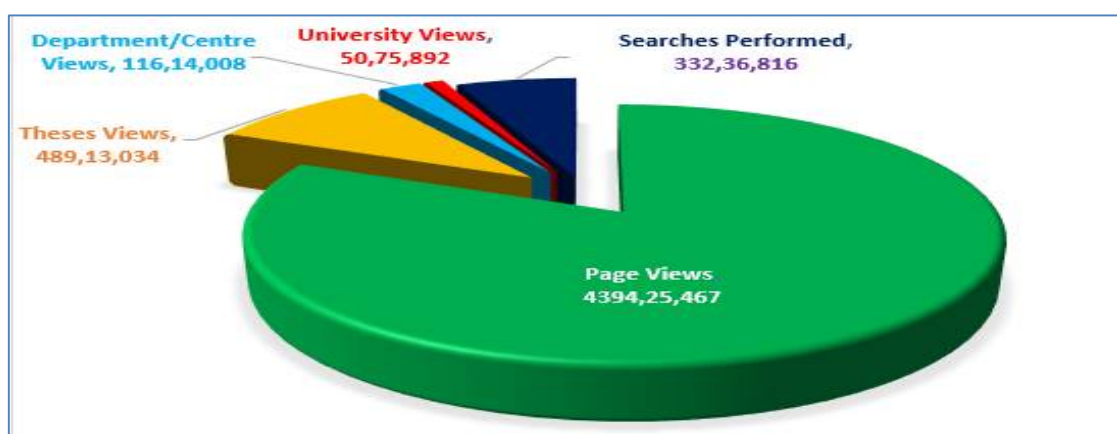


Fig. 16: Views and Searches on Shodhganga for FY 2017-2018

4.2.6. Top 10 Theses Viewed Highest Number of Times in Shodhganga

The Top 10 theses that were viewed highest number of times for the FY 2017-18 given below in Table.10

Sl. No.	Title and Its Unique URL	No. of Views
1	Humour in Malayalam short stories ഹാസ്യം മലയാള ചെറുകഥയില് (http://shodhganga.inflibnet.ac.in/handle/10603/7650)	20376
2	Women freedom fighters in Tamil Nadu (http://shodhganga.inflibnet.ac.in/handle/10603/14211)	13126
3	A comparative study of life insurance Corporation of India and private life insurance companies in India (http://shodhganga.inflibnet.ac.in/handle/10603/3519)	9656
4	History of English literature in Pre-Post Independence India: a critical evaluation (http://shodhganga.inflibnet.ac.in/handle/10603/4901)	9245
5	Gujarati sonet kavitaana sthityataro: ek adhyayan (ગુજરાતી સોનેટ કવિતાના સ્થિત્યાન્તારો: એક અધ્યયન) (http://shodhganga.inflibnet.ac.in/handle/10603/9687)	8939
6	A study of brand preference of mobile phones (http://shodhganga.inflibnet.ac.in/handle/10603/21293)	8865
7	A study on job satisfaction of bank employees with special reference to State Bank of India, Kanyakumari district (http://shodhganga.inflibnet.ac.in/handle/10603/13997)	8768
8	Tamilil Sirukadhai Thiranaaivu Thotramum Valarchiyum (தமிழில்சிறுகதைத்திறனாய்வுதோற்றமும்வளர்ச்சியும்) (http://shodhganga.inflibnet.ac.in/handle/10603/5754)	8432
9	Some topics in operations research (http://shodhganga.inflibnet.ac.in/handle/10603/74490)	8254
10	Students attitude towards entrepreneurship a study of MBA students of management institutes in Pune district (http://shodhganga.inflibnet.ac.in/handle/10603/95837)	7983

Table 10: Top 10 Theses Viewed in Shodhganga

4.3. Shodhgangotri: A Repository of Synopses submitted to Indian Universities for Registration in Ph.D. Programme (<http://shodhgangotri.inflibnet.ac.in/>)

Under this initiative, research scholars / research supervisors in universities could deposit an electronic version of approved synopsis submitted by research scholars to the universities for registering themselves under the Ph.D. programme. Synopses in Shodhgangotri would later be mapped to full-text thesis in Shodhganga. As such, once the full-text thesis is submitted for a synopsis, a link from synopsis in Shodhgangotri to the full-text theses in Shodhganga will be provided. During the year under report, 51 universities contributed their synopses into Shodhgangotri. Total number of synopses submitted into repository grew to 3,900. 637 synopses received at the Centre are to be uploaded onto Shodhgangotri, awaiting its migration to cloud platform from its present server for better performance.

4.4. IR @ INFLIBNET (<http://ir.inflibnet.ac.in/>)

Yatrik Patel, Scientist D (CS)
Swapnil Patel, Scientist B (CS)
Vijay Shrimali, STA (CS)

The Centre has established an institutional repository called IR@INFLIBNET using DSpace, open source software accessible at <http://ir.inflibnet.ac.in/>. The papers published in the proceedings of the CALIBER and PLANNER are uploaded into the repository. The Repository also includes course materials, newspaper clippings, etc. The repository has 1,777 full-text articles. Fig. No.17 depicts the usage statistic of INFLIBNET's institutional repository.

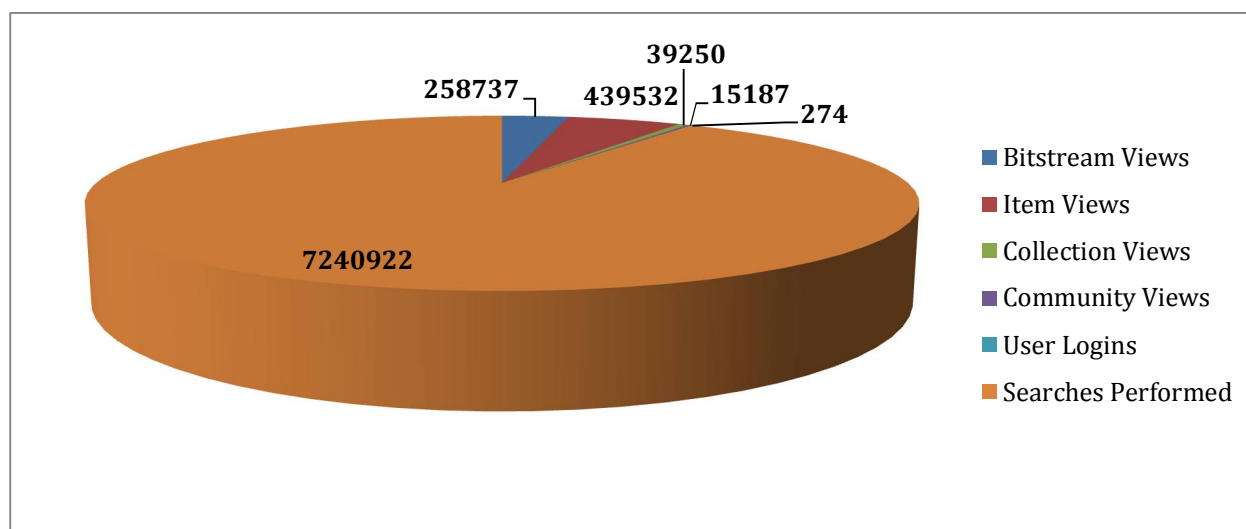


Fig. 17: INFLIBNET'S Institutional Repository

4.4.1 Institutional Repositories Customizations and Support

The INFLIBNET Centre is assisting institutions of higher learning in the process of creation and maintenance of institutional repositories. The Centre is using self-developed expertise in open

source software like DSpace, Linux, Perl, Java, Apache Tomcat, PostgreSQL, MySQL etc. Under this initiative, the Centre has installed, configured, customized and hosted institutional repositories for various institutions. During the year under report, the Centre has provided help and support to the institutes given below in Table 11.

Sl. No.	Name of Institute	Services Provided
1	ARAI, Pune	Maintenance (Renewed) DSpace version upgrade, Customization, Backup, Statistics generation, Log maintenance
2	Ganpat University, Mehsana	Hosting (Renewed)
3	Gujarat University, Ahmedabad	Hosting (Renewed) (Sampada Repository)
4	Women's College, Tinsukia,	DSpace Installation, Customization, Hosting
5	Krishna Kanta Handiqui State Open University, Guwahati	DSpace Installation, Customization, Hosting

Table 11: Institutions and DSpace Customization Services Provided by the INFLIBNET Centre

Besides, the Centre also provides proactive help, support and consultancy to many national and international institutions over phone and via remote login to setup their repositories. This group is also responsible for supporting and maintaining INFLIBNET Centre's Institutional Repositories as well as other open access initiatives like Shodhganga and Shodhgangotri.

4.5. InfoPort: A Subject Gateway to Indian Scholarly Internet Resources (<http://infoport.inflibnet.ac.in/>)

Yatrik Patel, Scientist D (CS)
Swapnil Patel, Scientist B (CS)
Roma Yogesh Asnani, STA (LS)

INFOPORT: INFLIBNET Subject Gateway for Indian Electronic Resources is designed to facilitate registering of an Internet resource into the portal and extending its access to users. INFOPORT supports browsing of Internet resources by Dewey Decimal Classification (DDC) Scheme. The main functional parts of INFOPORT are:

- »» Dewey Decimal Classification (DDC) Search;
- »» Search Cloud;
- »» Free-Text Search;
- »» Alphabetical Search;
- »» Resource Type Search; and
- »» Intute Search

During the year under report, number of features and functionalities of subject gateway were enhanced based on feedback from users and additional Internet resources were added to the portal. The interface is populated with more than 1,760 e-resources.

4.6. ICSSR Data Service: Indian Social Science Data Repository

Jagdish Arora, Director
 Yatrik Patel, Scientist D (CS)
 Divyakant Vaghela, Scientist B (CS)
 Miteshkumar Pandya, Scientist B (LS)
 Hitesh Solanki, Scientist B (CS)
 Pallabh Pradhan, Scientist B (LS)
 Mitisha Vaidya, Project Officer (CS)
 Gaurav Gond, Project Officer (CS)
 Divya Vyas, Project Assistant (LS)

The INFLIBNET Centre was given a project for setting-up of a Data Repository for Social Science by Indian Council of Social Science Research, New Delhi. ICSSR Data Service was set-up using NADA (National Data Archive) - open source data repository software developed by IHSN (International Household Survey Network). NADA uses Data Documentation Initiative (DDI) metadata standard for describing datasets. NADA also facilitate importing of existing datasets in DDI format. Fig.18 depicts website of ICSSR Data Service.



Fig. 18: ICSSR Data Service's Website

140 datasets (93 NSS datasets, 44 ASI datasets 1 Time Use Survey dataset and 2 Economic Census) are hosted on ICSSR Data Service portal. Unit level data for each dataset have been converted to SPSS format (*.sav), STATA format (*.dta) and Tab Separated Value format (*.dat) and uploaded with the original datasets on the portal. These datasets have been categorised, described and

documented according to DDI Standards. Registered users can download any dataset and do further analysis as per their requirement.

The Centre has customized various operations and implemented new features in ICSSR Data Service. In registration procedure, the centre has customized registration form as per requirement and added few fields along with identity proof which is important in the verification process. Besides, the Centre has developed an interface to create a new dataset as well as to update the metadata of existing datasets.

4.6.1. ICSSR Data Analytic Tool

Yatrik Patel, Scientist D (CS)
Divyakant Vaghela, Scientist B (CS)
Hitesh Solanki, Scientist B (CS)
Mitisha Vaidya, Project Officer (CS)

The Centre has developed "ICSSR Data Analytic Tool" that facilitates users to explore unit level data available in datasets online. Beta version of the tool is available at <http://www.icssrdataservice.in/shiny/analytictool/> as shown in Fig.19. This tool is developed using "R" language to facilitate advance analysis and visualization of datasets. Various operations (like maintaining uniform key variable name, removing duplicate fields) were performed on each block of dataset for making ICSSR Data Analytic Tool functional. User can perform a number of analytical operations by using this tool such as: univariate analysis, data transformation, cross tabulation and pivot analysis. User can visualize the resultant data using various charts like histogram, bar plot, stacked chart, column chart, heat map, etc. Apart from this, user can generate the map of state wise data derived through analysis. There were 56,26,002 total number of resources downloads, 24,89,654 total number of views and 998 registered users towards usage statistics of ICSSR Data Analytic Tool.



Fig. 19: ICSSR Data Analytic Tool

5. Library Consortium and its By-product: E-Shodh Sindhu and InfiStat, Jgate+ and INFED

Jagdish Arora, Director
Ashok Kumar Rai, Scientist D (CS)
Kruti Trivedi, Scientist B (LS)
Dinesh Ranjan Pradhan, Scientist B (LS)
Hitesh Solanki, Scientist B (CS)
Roma Yogesh Asnani, STA (LS)

The Centre is responsible for operating two consortia, namely e-Shodh Sindhu and its college component called "National Library and Information Services infrastructure for Scholarly Contents (N-LIST)" with an aim to extend access to e-resources to CFTIs & universities and colleges respectively. Two separate entities within the umbrella of eShodh Sindhu were maintained not only to cater to the diverse needs of two sets of institutions, namely CFTIs & universities and colleges, but also to satisfy the requirements of different economic models of these two consortia. A brief description of the e-Shodh Sindhu and its college component is given below.

The e-Shodh Sindhu, formed with merger of UGC-INFONET Digital Library Consortium, INDEST-AICTE Consortium and NLIST in the year 2015, has successfully completed its first phase with completion of 12th Plan Period. In its second phase, it was resolved that from 2018 onwards, the current model of centrally-controlled and centrally-financed consortium would be transformed into a model wherein institutions would have an option to select resources from a comprehensive list of resources that are being subscribed by the consortium as well as those that are being subscribed by individual institutions. Existing members would be able to see usage statistics of existing e-resources in previous years to take an informed decision for subscribing e-resources for the year 2018 of their choice based on their requirements from their own funds. Consortium would also continue to act as a body to negotiate rates of subscription with publishers on behalf of institutions. In addition, the Consortium would also subscribe to a few selected e-resources for the year 2018 that are required by most of the eligible institutions.

During the year under report, an Online e-Resources Registration System was developed to seek interest of e-Resources from all Higher Education Institutes. This system facilitated higher education Institutions in the country to register their e-resource requirements including e-journals and e-databases for the years 2018 onwards. Based on the data submitted by Institutes, the Consortium negotiated rates of subscription to e-resources with publishers. The Consortium negotiated rates of subscription for 85 resources in comparison to 43 resources that were negotiated till 2017. The scope of the consortium increased from 65 CFTIs, 218 universities / IUCs, 2800+ colleges and 94 AICTE funded institutions to entire higher education institutions in the country.

For the year 2018, the consortium subscribed to 17 resources through central funding for eligible institutions who registered their requirements through the e-Shodh Sindhu portal. The total number of resources to be made available through central funding includes 7038+ journals and four databases. e-Shodh Sindhu continued to provide current as well as archival access to these 7038+

core and peer-reviewed journals including four bibliographic and citation databases in different disciplines from a number of publishers and aggregators to its core member institutions including centrally-funded technical institutions, universities and colleges that are covered under 12(B) and 2(f) Sections of the UGC Act.

5.1. Governance

The MHRD has constituted three national committees consisting of MHRD officials, representatives of member institutions and experts in library and information science. Composition of these three committees and their role and responsibilities are given below.

5.1.1. National Advisory Committee

National Advisory Committee for e-Shodh Sindhu is constituted by the MHRD to advise and guide the Consortium on rates of subscription negotiated by it as well as on collaborative services between MHRD-funded institutions. The current composition of National Advisory Committee is given in Appendix VII.

5.1.2. National Steering Committee

E-Shodh Sindhu is being operated by the INFLIBNET Centre under the overall guidance of a National Steering Committee that guides and steers the activities of the Consortium. The current composition of National Steering Committee is given in Appendix VIII.

5.1.3. Joint Negotiation Committee

The Joint Negotiation Committee is constituted by the MHRD for negotiating rates of subscription to e-resources. The current composition of Joint Negotiation Committee is given in Appendix IX.

5.2. Member Institutions

Access to e-resources is being provided to different categories of institutions through central funding as mentioned below in Table 12:

Sl. No.	Category	No. of Institutions
1	12 (B) / 2 (f) State Universities	103
2	Central Universities	38
3	Deemed Universities (UGC funded)	19
4	IUCs of UGC	6
5	National Law Schools/Universities	12
	Universities	178
6	IITs & IISc	21
7	NITs, SLIET & NERIST	31

Sl. No.	Category	No. of Institutions
8	IIMs	17
9	IISERs	7
10	SPAs	3
11	IIITs, IEST, NITIE, NIFFT and NITTTR	11
	CFTIs (Total CFTIs)	91
	Total	269

Table 12: Different Categories of Institutions that are Getting Access to e-Resources through Central Funding

In addition, access to e-resources to 94 Government engineering colleges is provided with funding from the AICTE. In addition, the Consortium also provides access to 6500+ journals and 31,50,000+ eBooks to 2,972 colleges under the NLIST programme, the college component of e-Shodh Sindhu described at 5.10. The list of institutions included in various categories of institutions is given at http://ess.inflibnet.ac.in/pdf/member_2018.pdf.

Other Higher Education Institutions can join the Consortium through online portal available on the Consortium website and subscribe to e-resources required by them on the rates negotiated by the Consortium.

5.3. Current Status: Services and Activities

The INFLIBNET Centre acts as a nodal agency for implementation, monitoring and execution of the e-Shodh Sindhu through Committees mentioned above. It coordinates all activities concerned with negotiation, renewal of subscription to e-resources and subsequent trouble shooting on behalf of the member institutions. e-Shodh Sindhu also promotes cooperation amongst member institutions and facilitates better terms of references for use and preservation of subscribed electronic resources.

5.3.1. Coordination, Negotiation and Licensing of e-Resources

The consortium co-ordinates the meeting of various committees of the consortium, negotiates rates of subscription to e-resources and terms and conditions of access to e-resources. The INFLIBNET Centre has also developed a Model License Agreement for subscription of e-resources. The INFLIBNET Centre also signs license agreement with the publishers on behalf of the member institutions of e-Shodh Sindhu.

5.3.2. Access to e-Resources

The Consortium co-ordinates with the member institutions and publishers for smooth access to e-resources through static IP addresses of member institutes. Since most colleges do not have static IP addresses, access to e-resources to the registered colleges is provided through EZ-Proxy set-up at the INFLIBNET Centre. The authorized users from colleges can access e-resources and download

articles required by them directly from the publisher's website once they are duly authenticated as authorized users through EZ-Proxy deployed at the INFLIBNET Centre. The Consortium has developed an online interface for creation, updation and modification of valid users of the colleges by the respective college administrators. The consortium also attends to the problems faced by member institutions and liaises with publishers to resolve such problems.

5.3.3. Maintain and Update Consortium Website

The e-Shodh Sindhu maintains a comprehensive website for providing detailed information about subscribed e-resources and member institutions. Tutorials and promotion materials have been developed for imparting training and technical support to member institutions. The e-Shodh Sindhu website provides options to searching and browsing subscribed journals, search for member institutions and view the e-resources subscribed for them by the consortium. The member institutions can also download list of journals available under various e-resources in xls format, which in turn, can be used for updating their local library systems. Fig.20 depicts the home page of e-Shodh Sindhu website.

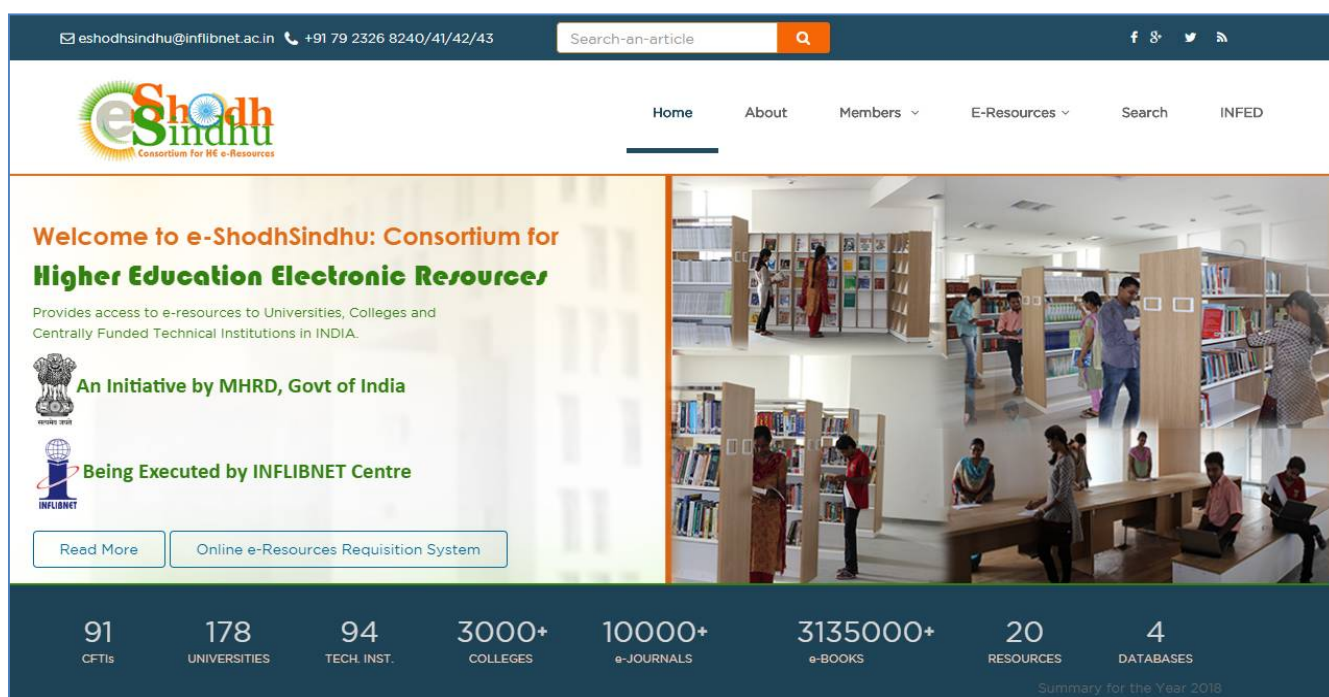


Fig. 20: e-Shodh Sindhu Website

5.3.4. InfiStats: Monitoring of Usage of e-Resources

The Consortium evaluates and monitors usage of subscribed e-resources using software called InfiStats developed in-house. The Centre has developed a software called InfiStats, for monitoring the usage statistics of various e-resources made accessible to the member institutions. The InfiStats uses "Standardized Usage Statistics Harvesting Initiative (SUSHI)" Protocol (ANSI/NISO Standard No. Z39.93-2007) that defines an automated request and response model for harvesting of usage data for electronic resources using Web services framework. The InfiStats portal imports the usage

data from the publisher's website automatically and store it in a database on InfiStats platform. The InfiStats interface provides title-level COUNTER-compliant reports to member institutions. The member institutions can also log-on to this portal for monitoring the usage of their respective e-resources. Fig. 21 depicts the home page of InfiStats website.



Fig. 21: InfiStats Website

5.3.5. Off-Campus Access to e-Resources

While IP-based access is most convenient, safe and hassle-free authentication mechanism for publishers as well as for subscribing institutions, it has its limitations. One of the most serious limitation of IP-filtered access to e-resources is that the users can access e-resources only when they are on the Institute campus. Ideally, an authorized user should be able to access e-resources irrespective of their physical location at any time as long as he has access to the Internet.

In order to overcome this limitation, the INFLIBNET Access Management Federation (INFED) was set-up which uses Shibboleth, a standard-based open source software, for authenticating authorized users from colleges and universities and provide them seamless access to e-resources from anywhere, anytime. Shibboleth offers a mechanism for users to access multiple resources within federated single sign-on framework. The goal of the INFED is to allow users to access internal and external resources seamlessly using a single, institutionally controlled identity. This would not only allow authorized users to access e-resources from anywhere, anytime but would also circumvent the requirement of maintaining multiple passwords for multiple resources in multiple domains. The INFED has already made agreements with 9 publishers for this service. More publishers will be joining INFED in near future.

5.4. Electronic Resources

The Consortium has negotiated rates of subscription for several electronic resources covering all major subject discipline being taught in CFTIs, universities and colleges. It includes wide variety of materials including e-journals, bibliographic databases, factual databases, state-of-the-art reviews published by scholarly societies, university presses, institutions, commercial publishers and aggregators. While 17 e-resources are subscribed with central funding, remaining 68 e-resources can be subscribed by member institutions with their own funding. The member institutions are provided differential access to these 17 e-resources based on their e-resource requirements registered on the Online e-Resource Requirement Portal developed for this purpose. The list of e-resources available to various categories of institutions is given in Appendix XI.

5.5. Archives and e-Books Purchased under E-Shodh Sindhu

The e-Shodh Sindhu Consortium also purchased / subscribed to South Asia Archives (SAA) and World E-Book Library (WEL) on behalf of National Digital Library (NDL). The World e-Book Library include 3 million (30,00,000) primary sources spanning past 1,000 years of world history in more than 320 different languages. In addition, contemporary journal collections of WeL include scholarly journals and academic articles from every academic field. The South Asia Archive contains more than 4.5 million pages spanning the period of 18th and mid-20th century from documents across the Indian subcontinent, including India, Pakistan, Burma, Afghanistan and Bangladesh. The access to SAA and WEL is available to all the institutions covered under the e-Shodh Sindhu Consortium as well as institutions under other Govt. funded Consortium like CERA, DelCON, CSIR-NKRC, DRDO etc. The access to both these resources is also available to individuals through the National Digital Library.

5.6. Major Achievements of e-Shodh Sindhu

- ▶▶ The Negotiation Committee of e-Shodh Sindhu met 5 times during the period of 3 months for 11 days to negotiate rates of subscription for 85 e-resources and to get the lowest rates of subscription;
- ▶▶ The Consortium negotiated for 85 resources in comparison to 43 resources that were negotiated till 2017;
- ▶▶ The scope of the consortium increased from 65 CFTIs, 218 universities/IUCs, 2800+ colleges and 94 AICTE funded institutions to entire higher education institutions in the country;
- ▶▶ 604 institutions submitted their requests for resources and 858 institutions requested for getting e-resources as on date;

- In spite of the severe financial constraints, the Consortium is subscribing to 17 resources through central funding for eligible institutions that have registered their requirements through the e-Shodh Sindhu portal. Rs. 117.82 crores has been allocated to the Consortium by the MHRD excluding GST for subscription to e-resources through central funding. The total number of 17 resources that are made available through central funding to various categories of member institutions includes 7038+ journals and 4 databases as per the Table 13 given below.

Sl. No.	Name of Resource	Number of Journals
1	JSTOR	3000+
2	Economic & Political Weekly	1
3	JGate Plus (JCCC)	DB
4	Oxford University Press eSS Collection-262 titles	262
5	ASME Journals Online	29
6	ASCE Journals Online	36
7	ACM Digital Library	140
8	American Institute of Physics - eSS Collection	19
9	American Physical Society - eSS Collection	13
10	Institute for Studies in Industrial Development (ISID) Database	DB
11	Web of Science	DB
12	Annual Reviews - eSS Collection	43
13	Project Muse	670
14	MathSciNet	DB
15	Springer Link + Nature 1 title	1700+
16	Taylor and Francis eSS Collection (1076 titles)	1076
17	American Chemical Society - eSS Collection	49

Table 13: 17 e-Resources Made Accessible to Eligible Member Institutions

- The % increase for various resources that were previously negotiated under the consortium is given below in Table 14:

0% increase	11 resources
1% increase	7 resources
4 / 5 % increase	For 2 resources only for Private funded AICTE colleges
All Other Resources	2.5-3% over last year rates

Table 14: % Increase for Previously Subscribed e-Resources for the Year 2018 under e-Shodh Sindhu

- In case of Springer journals, subscription is through the central funding, and the combined savings as per publisher's existing revenue of the member institutions is more than ₹ 10,00,000 per annum. This includes the savings by institutions in terms of their existing print / core subscriptions previously maintained. In addition, the NITs which were earlier having the

subscription on access only model will not be entitled to get archival access to the subscribed content for the paid period.

- »» The consortium has also convinced the publishers to provide post-termination access to resources wherever applicable.
- »» In case of EBSCO databases, some institutions may get savings for some e-resources as the lowest price offered to any institutions was taken into consideration for negotiation of various databases.

5.7. Funds Released

The Consortium received Rs.168.00 crores in the FY 2015-16, Rs. 235.00 crores during FY 2016-17 including Rs. 21.32 crores for World e-Book Library and South Asia Archive. The details of funds released to e-Shodh Sindhu during FY 2017-18 are given below in Table 15:

Sl. No.	Funds Released	Rupees in Crores
1	Funds released for May 2017 (Vide Letter no F.16-23/2014-TEL, dated 26th May 2017)	60.00
2	Funds released for August 2017 (Vide Letter no F.16-23/2014-TEL, dated 4th Aug 2017)	60.00
3	Funds released for March 2018 (Vide Letter no F.16-23/2014-TEL, dated 12th March 2018)	21.25
4	Funds released for March 2018 (Vide Letter no F.16-23/2014-TEL, dated 12th March 2018)	3.75
5	Funds released for March 2018 (Vide Letter no F.16-23/2014-TEL, dated 12th March 2018)	0.12
	Total (FY 2017-2018)	145.12

Table 15: Funds Released to e-Shodh Sindhu during FY 2017-18

5.8. Usage of e-Resources: Analysis

Most publishers maintain detailed usage statistics for resources made accessible to subscribing institutions. The publishers provide username and password to subscribing institutions for accessing the usage statistics for their resources for monitoring purpose. The Consortium analyses the usage on various parameters as mentioned below.

5.8.1. Average Cost of an Article

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 16 given below, provide the cost per download of an article. The cost per download is lowest for JSTOR (Rs. 6.58) and the highest for SIAM (Rs.532.40), whereas the Consortium average is Rs. 65.96.

Sl. No.	Resource Name	Total FT Downloads	Cost per Use (in Rs.)
1	ACM Digital Library	191116	118.60
2	American Chemical Society	1731016	51.64
3	American Institute of Physics	734932	129.38
4	American Physical Society	566908	142.00
5	Annual Reviews	107264	262.96
6	ASCE Journals Online	252582	109.82
7	ASME Journals Online	247074	102.01
8	Emerald - CFTI/Univ Collection	490567	146.52
9	IEEE Explore	6197952	95.78
10	Institute of Physics	288443	103.28
11	JSTOR	3642105	6.58
12	Nature	1776646	12.17
13	Optical Society of America	78810	88.51
14	Oxford University Press	682332	87.56
15	Portland Press	24465	142.15
16	Project Euclid	8235	310.29
17	Project Muse	137225	393.06
18	Proquest-ABI/Inform Complete	248801	39.37
19	Royal Society of Chemistry	855909	38.10
20	ScienceDirect - 10 Subject Collection	8436838	83.26
21	SIAM	33647	532.40
22	Springer Link	3138688	79.05
23	Taylor and Francis	795781	89.51
24	Wiley Blackwell Publishing	1437956	126.28
	Average Cost per Article		65.96

Table 16: Cost per Download for Full-Text e-Resources for the Year 2017

5.8.2. Correlation between Number of Downloads and Publication Pattern of Institutions

An analysis of correlation between the numbers of full-text downloads and the corresponding increase in number of publications of member institutions was made. The objective of measuring correlation between number of research articles and number of downloads is to find out whether increase in research output is influenced by the ease of access to scholarly publications that the consortium has made available to their member institutions. Fig. 22 and Fig. 23 are scatter diagrams showing correlation between numbers of full-text downloads and number of publications by member

institutions getting access to e-resources under eShodh Sindhu for the year 2016 and 2017 respectively.

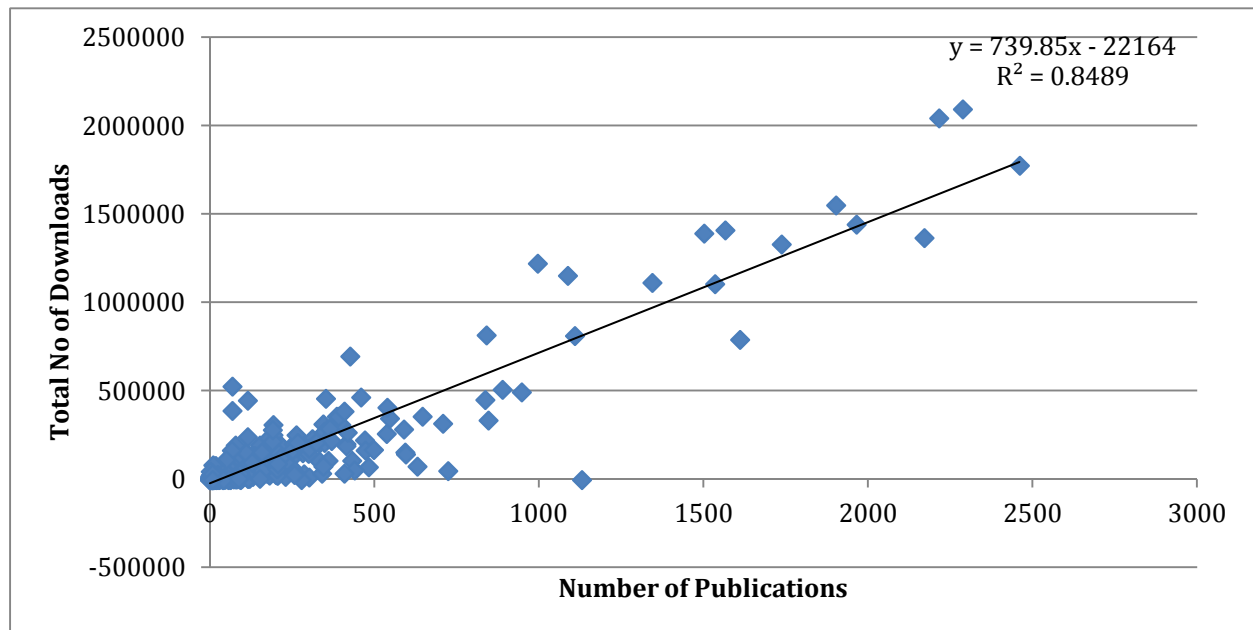


Fig. 22: Correlation between Number of Full-text Downloads and Publication of eShodh Sindhu Consortium for 2016

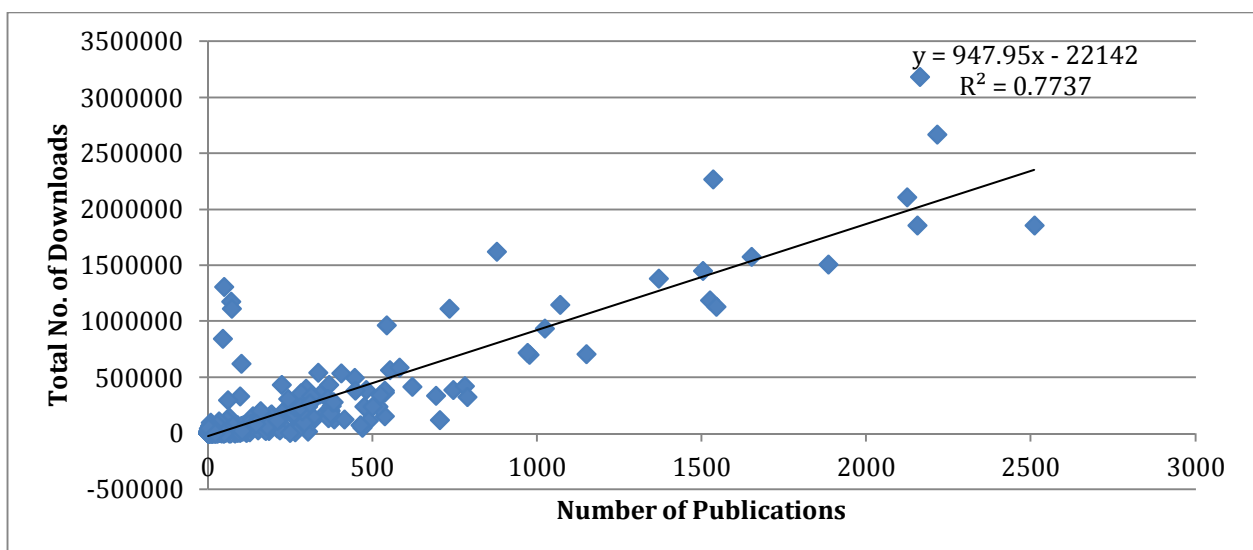


Fig. 23: Correlation between Number of Full-text Downloads and Publication of eShodh Sindhu Consortium for 2017

The correlation between number of publications against the number of articles downloads by the member institutions of eShodh Sindhu in 2016 and 2017 was calculated to get a measure of statistical correlation between the two variables, without assuming any parametric relation between them, Pearson's Linear Correlation (r) has been measured as data points shown in Fig. 21 and Fig. 22 given above. Pearson Correlation Coefficient is a measure of the linear correlation between two variables. It has a value between +1 and -1, where +1 is total positive linear correlation, 0 is no linear correlation, and -1 is total negative linear correlation. The Pearson Correlation Coefficient for the

members of eShodh Sindhu Consortium for 2016 is 0.9213 and for 2017 it is 0.8795. This indicates that there is a strong and positive correlation between these two variables.

5.9. Document Delivery through J-Gate Plus@e-Shodh Sindhu

The J-Gate Plus@e-Shodh Sindhu is a virtual library of journals literature created as a customized e-journal articles access gateway and database solution for member institutions of e-Shodh Sindhu. It provides article level access to e-journals subscribed under the Consortium as well as e-journals subscribed by 26 university libraries designated as ILL Centres of the INFLIBNET Centre. Moreover, increasing number of CFTIs are now contributing their journal subscription details in the J-Gate Plus. It acts as a gateway to search 49,000+ journals including 25,000+ journals subscribed by the Consortium as well as universities designated as ILL Centres. The J-Gate Plus interface facilitates triggering of e-mail request for articles that are not accessible online and are available only in universities designated as ILL Centres.

During the period under report, 722 ILL requests were received from member universities to the INFLIBNET Centre out of which 664 requests were fulfilled. Details of numbers of article requests received from member universities are given below in Table 17:

Sl. No.	Requested By	DDR-DU	DDR-F	DDR-P	DDR-UF	Total
1	Dr. B.R. Ambedkar Memorial Library - Acharya Nagarjuna University	2	97	0	6	105
2	Annamalai University Library	2	91	0	1	94
3	Kannur University	0	61	0	0	61
4	National Institute of Industrial Engineering - Mumbai	0	33	0	0	33
5	National Institute of Technology-Calicut	0	24	0	1	25
6	Gulbarga University	1	21	0	0	22
7	Mother Teresa Women's University	2	20	0	0	22
8	Indian Institute of Technology - Roorkee	0	19	0	2	21
9	Tata Institute of Social Sciences	0	20	0	0	20
10	National Institute of Technology - Kurukshetra	1	15	0	0	16
11	Mohanlal Sukhadia University	0	13	0	2	15
12	Sikkim University	0	14	0	0	14
13	North Maharashtra University	0	13	0	0	13
14	Ambedkar University	0	6	0	6	12
15	Central University of Gujarat	0	9	0	0	9
16	Central University of Kashmir	0	9	0	0	9
17	Periyar University	0	9	0	0	9

Sl. No.	Requested By	DDR-DU	DDR-F	DDR-P	DDR-UF	Total
18	Pt. Ravishankar Shukla University	1	8	0	0	9
19	Indian Institute of Technology – Madras	2	7	0	0	9
20	Barkatullah University	0	8	0	0	8
21	Indian Institute of Technology - Kharagpur	0	7	0	1	8
22	Sardar Vallabhbhai National Institute of Technology	0	6	0	1	7
23	Alagappa University	0	6	0	0	6
24	Maharshi Dayanand University – Rohtak	0	6	0	0	6
25	Others (84 Universities)	4	142	0	23	169
	Total Requested	15	664	0	43	722

\$DDR-DU: Document Delivery Request-Delay,

***DDR-F: Document Delivery Request – Fulfilled**

+DDR-P: Document Delivery Request - Pending,

#DDR-UF: Document Delivery Request – Unfulfilled

Table 17: Document Delivery Requests made by Different Universities

During the period under report, a total number of 2258 requests were received by the 26 ILL Centres and by the INFLIBNET from all the member universities, out of which 1301 were fulfilled as per the details given below in Table 18.

Sl. No.	University Name	DDR-DU	DDR-F	DDR-P	DDR-UF	Total	% of Fulfilled
1	Aligarh Muslim University	0	4	4	8	16	25.00
2	Annamalai University	0	20	0	6	26	76.92
3	Assam University	0	0	0	0	0	NA
4	Banaras Hindu University	0	44	0	1	45	97.78
5	Banasthali University	27	109	0	38	174	62.64
6	Bangalore University	0	0	45	0	45	0.00
7	Birla Institute of Technology and Science	2	31	0	15	48	64.58
8	Jadavpur University	0	0	0	0	0	NA
9	Jawaharlal Nehru University	0	0	22	0	22	0.00
10	Kurukshetra University	0	0	6	0	6	0.00
11	Mangalore University	0	0	13	0	13	0.00
12	North Eastern Hill University	0	1	1	0	2	50.00
13	Pondicherry University	0	31	0	31	62	50.00
14	Pt. Ravishankar Maharaj Shukla University	0	9	0	6	15	60.00
15	Punjab University	0	66	0	19	85	77.65

Sl. No.	University Name	DDR-DU	DDR-F	DDR-P	DDR-UF	Total	% of Fulfilled
16	Punjabi University	0	0	0	2	2	0.00
17	Rashtrasant Tukodji Maharaj University	0	0	0	0	0	NA
18	Sardar Patel University	0	0	3	0	3	0.00
19	Tata Institute of Social Science	0	40	0	27	67	59.70
20	The Maharaja Sayajirao University	0	5	0	29	34	14.71
21	University of Calcutta	0	0	0	392	392	0.00
22	University of Delhi	0	36	0	32	68	52.94
23	University of Hyderabad	4	225	0	81	310	72.58
24	University of Madras	0	0	4	0	4	0.00
25	University of Pune	2	16	0	79	97	16.49
26	University of Rajasthan	0	0	0	0	0	NA
27	INFLIBNET Centre	15	664	0	43	722	91.97
	Total	50	1301	98	809	2258	57.62

\$DDR-DU: Document Delivery Request-Delay,
 *DDR-F: Document Delivery Request – Fulfilled
 +DDR-P: Document Delivery Request - Pending,
 #DDR-UF: Document Delivery Request – Unfulfilled

Table 18: Document Delivery Requests Received by 26 ILL Centres and INFLIBNET Centre

Fig. 24 depicts comparison between DDR-Fulfilled and total number of DDR received by each ILL Centre.

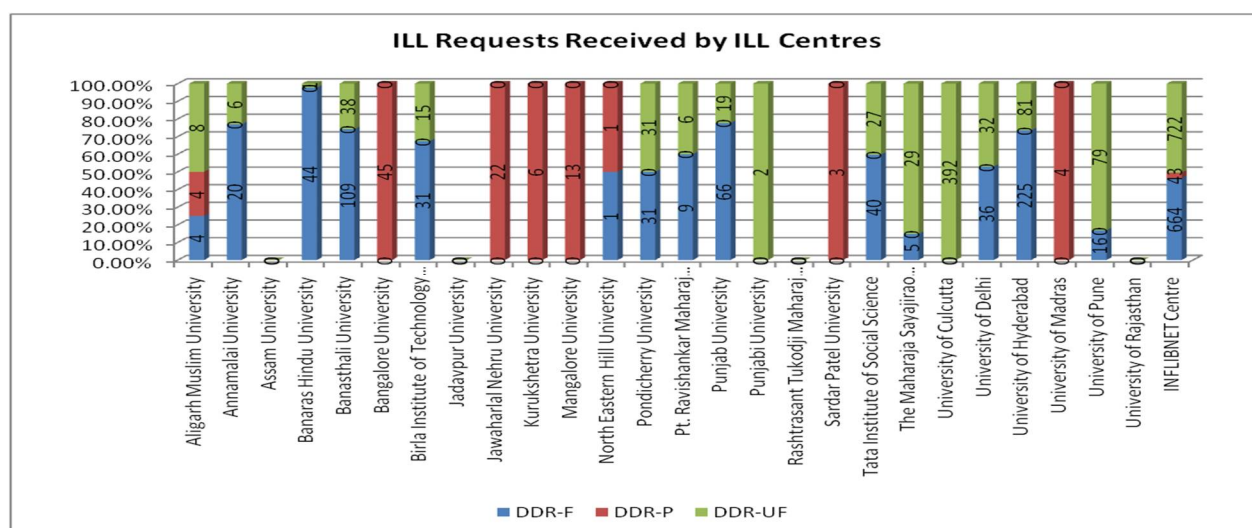


Fig. 24: Document Delivery Requests Received (DDR-R) Vs Full-filled (DDR-F) by 26 ILL Centres

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

The "National Library and Information Services Infrastructure for Scholarly Content (N-LIST)" Programme is the college component of e-Shodh Sindhu since its launch in 2015. The NLIST project,

using a highly innovative access model, provides access to 6,094 e-journals and 31,65,409 e-books to all Govt. Govt.-aided as well as non-aided colleges through a proxy server installed at the INFLIBNET Centre. Electronic resources subscribed under NLIST project covers all relevant areas taught in colleges such as arts & humanities, social sciences, physical and chemical sciences, life sciences, computer sciences, political sciences, library and information science, law, business, mathematics, statistics, etc.

5.10.1. Current Status

As on March 31, 2018, a total number of 2,972 member colleges are getting access to resources subscribed under the N-LIST programme. Log-in IDs and passwords have been issued to more than 4.50 lakhs faculty members, students and researchers after obtaining list of authorized users from these 2,972 registered colleges. Efforts are being made to enrol more colleges by organizing training and orientation programmes through affiliating universities.

5.10.2. Electronic Resources Subscribed under the N-LIST Programme

Full-text electronic resources contain complete articles along with their bibliographic details. It includes full-text journals and electronic books.

5.10.2.1. Full-text Electronic Journals

Full-text electronic resources contain complete articles along with their bibliographic details. The N-LIST programme subscribes to full-text e-resources from scholarly societies, commercial publishers and aggregators like American Institute of Physics, American Physical Society, Oxford University Press, Royal Society of Chemistry, Cambridge University Press, H W Wilson, etc. Full-text electronic journals subscribed under the N-LIST programme are listed in Table 19 given below.

Sl. No.	E-resources	Publishing Country	No. of Journals	Backfiles from
1	American Institute of Physics	USA	18	Ten yrs.
2	Annual Reviews	USA	33	Ten yrs.
3	Economic and Political Weekly (EPW)	India	1	1966+
4	Indian Journals	India	186	2007+
5	Institute of Physics	UK	46	Vol. 1+
6	JSTOR	USA	2500	Vol. 1+
7	Oxford University Press	UK	206	1996+
8	Royal Society of Chemistry	UK	29	Ten yrs.
9	H. W. Wilson	USA	3,075	1982+
	Total		6094	

Table 19: Full-text Electronic Journals Subscribed under NLIST

5.10.2.2. Electronic Books

Electronic books are either subscribed on annual subscription basis as in case of ebrary or are purchased on one-time payment and perpetual access basis as in case of all remaining publishers listed below. Total number of electronic books accessible to colleges under N-LIST programme exceeds 31,65,409 as per details given below in Table 20 which includes more than 30,00,000 e-books from World e-Book Library.

Sl. No	E-book Collection	Books Available	Books Subscribed / Purchased	Access Available
1	World e-Book Library	30,00,000	30,00,000	30,00,000
2	E-brary	1,25,000+	1,25,000+	1,25,000+
3	Cambridge Books Online	13,966	1,800	6,000+
4	EBSCO Host-Net Library	4,436	936	4,436
5	Net Library- Open Access	--	--	3,500
6	Hindustan Book Agency	65	65	65
7	Institute of South East Asian Studies (ISEAS) Books	382	382	382
8	Oxford Scholarship Online	6,577	1,402	1,402
9	Springer eBooks	50,208	2,300	18,000+
10	Taylor & Francis eBooks	40,000+	1,800	4,500+
11	Myilibrary-McGraw Hill	2,50,000	1,124	1,124
12	Sage Publication eBooks	2,700	1,000	1,000
	Total	34,93,334	31,35,809	31,65,409

Table 20: Electronic Books Subscribed / Purchased under NLIST

5.10.2.3. E-Resources Available through National Subscription

Access to South Asia Archives (SAA) and World E-Book Library (WEL), subscribed by eShodh Sindhu on behalf of National Digital Library (NDL), are made available to member colleges of NLIST through proxy server set up at INFLIBNET Centre. The World e-Book Library including 3 million (30,00,000) primary sources spanning past 1,000 years of world history in more than 320 different languages. The South Asia Archive contains more than 4.5 million pages spanning the period of 18th and mid-20th century from documents across the Indian subcontinent, including India, Pakistan, Burma, Afghanistan and Bangladesh.

5.10.3. Implementation Methodology

Since most of the colleges registered under the NLIST Programme do not have static IP addresses, access to e-resources based on IP filtering cannot be implemented for colleges. Moreover, most of the publishers were reluctant to handle authentication of large number of users from thousands of

colleges who had to be given freedom to enrol themselves for the N-LIST at anytime during the year as well as during the project period.

As such, the INFLIBNET Centre has implemented EZ-Proxy from OCLC for authenticating registered users from colleges. Individual users from colleges can directly access and download articles from journals and chapters from books directly from publisher's website once they are duly authenticated as authorized users through the authentication mechanism deployed at the INFLIBNET Centre.

5.10.4. Analysis of Usage

It is important to ensure that the resources offered to the colleges are being used optimally and steps are taken to promote usage of e-resources, wherever required. A brief analysis of usage of e-resources by the beneficiary college is given below.

5.10.4.1. Publisher-wise Usage of e-Journals under NLIST

Fig. 25, given below, shows number of articles downloaded by the users from different publishers during the financial year 2017-2018. It can be observed that JSTOR is highly used resource followed by Indian Journals and H. W. Wilson. The usage of EPW could not be analysed due to lack of usage data from both the publishers.

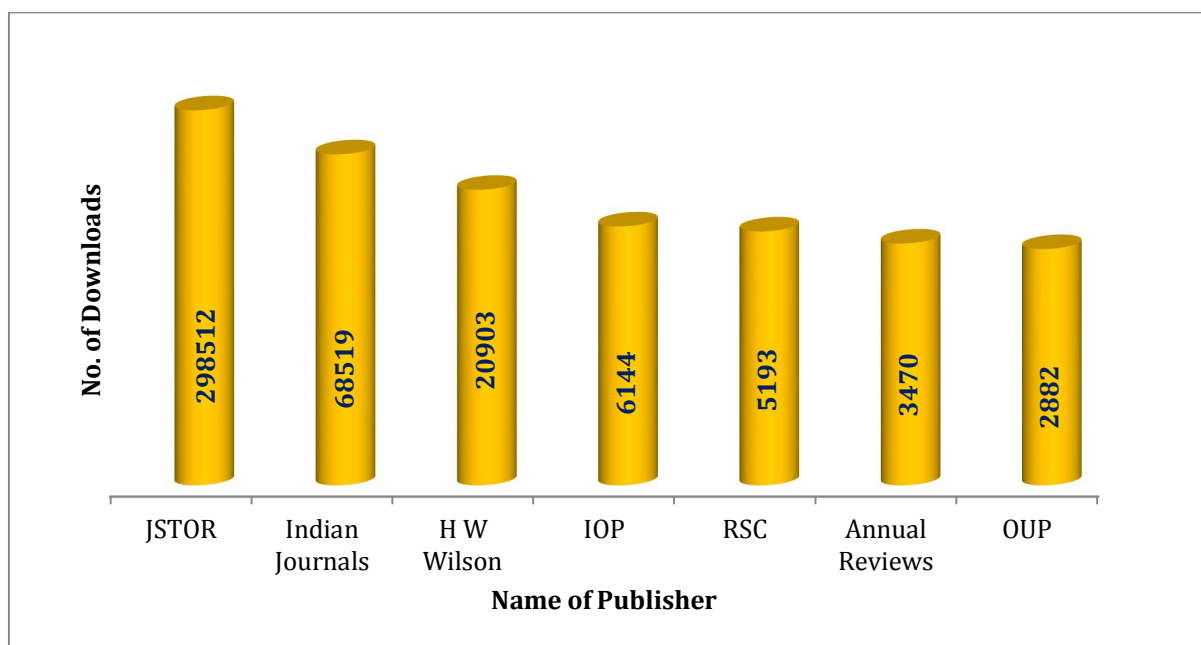


Fig.25: Publisher wise Usage of E-Journals under NLIST

5.10.4.2. Publisher wise Usage of E-Books

Fig. 26, given below, shows publisher wise usage of eBooks during the financial year 2017 - 2018. It can be observed that Ebrary is highly used resource followed by Springer e-books and Sage e-books.

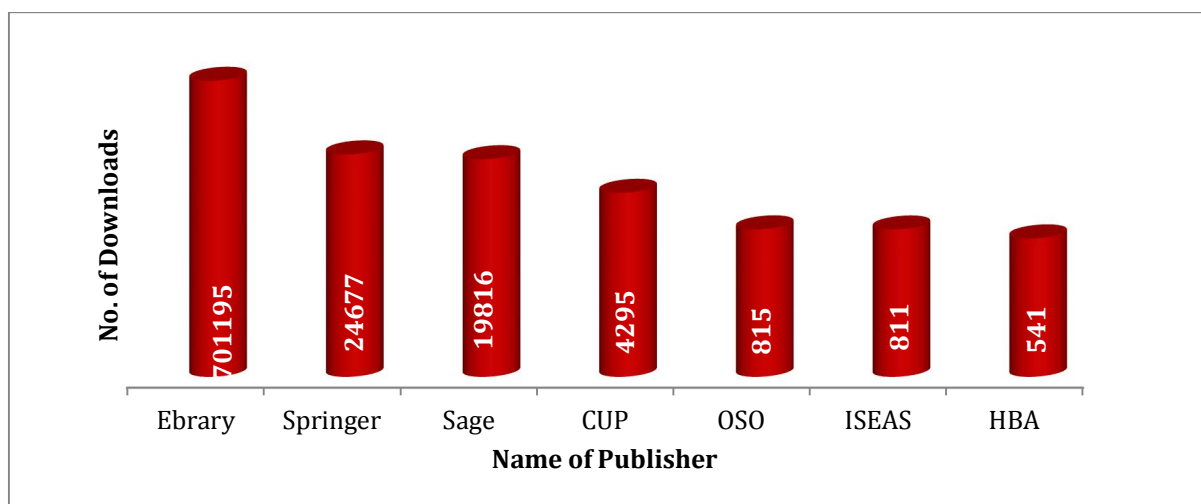


Fig. 26: Publisher wise Usage of E-Books 2017-2018

5.10.4.3. Monthwise Usage of e-Resources

Fig.27 given below reflects month wise usage of e-journals and e-books for the period April 2017 to March 2018.

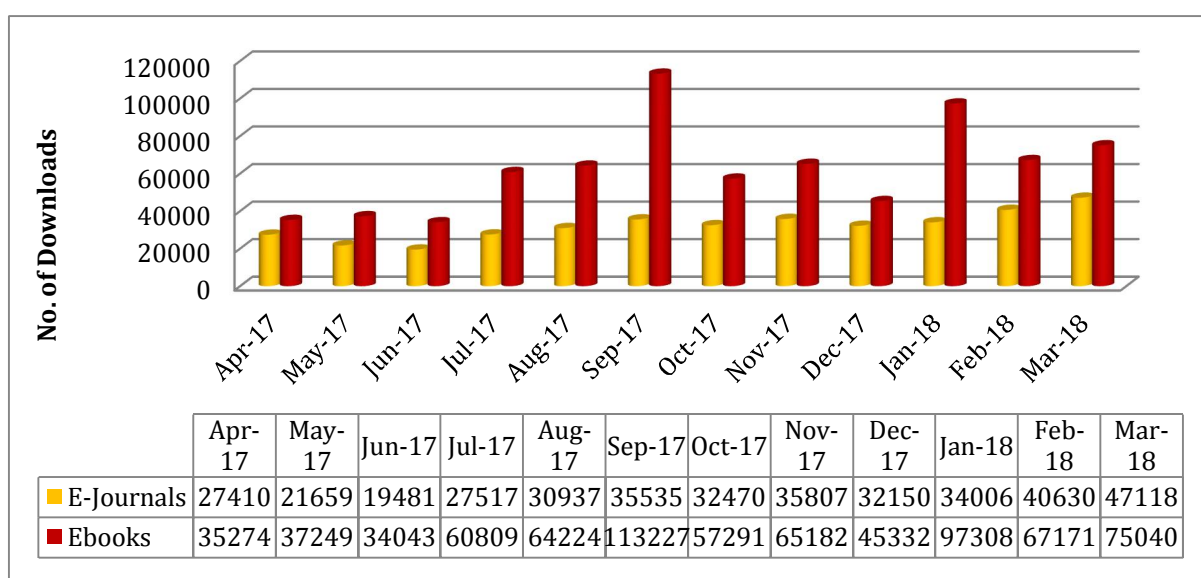


Fig. 27: Month-wise Usage of e-Journals and e-Books for FY 2017-2018

5.10.4.4. Month wise Unique Visitors

Since the access of e-resources is provided through a proxy server set up at the INFLIBNET Centre, it is difficult to analyse usage of e-resources by a given college. The Centre is using AW stats, a powerful open source tool that generates statistics from the local proxy server. The Centre has used this tool to analyse log files of N-LIST Proxy Server. Fig. 28 given below shows month wise unique visitors to N-LIST resources. The graph shows average 24,460 monthly users from 2972 member colleges. There is 37% increase in average monthly users comparing to usage in previous FY 2016-2017.

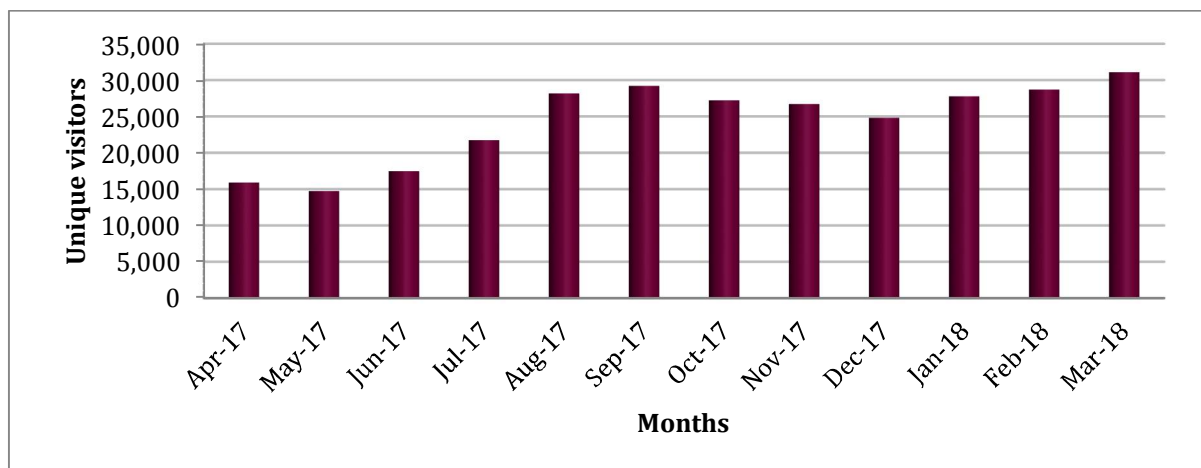


Fig. 28: Month wise Unique Visitors of the N-LIST for FY 2017 –2018

5.10.4.5. Month wise Pages Viewed

A total number of 1,33,42,366 pages were viewed by the users in member colleges from the subscribed e-resources. Fig. 29 given below depicts month wise number of pages viewed by the users in member colleges.

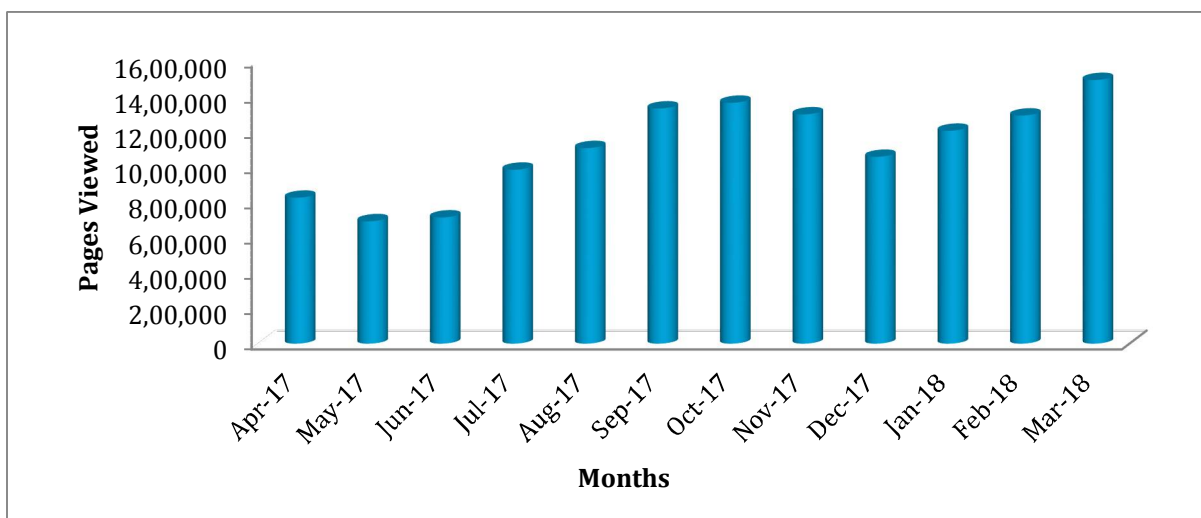


Fig. 29: Month wise Pages Viewed from Subscribed e-Resources under NLIST during FY 2017 -2018

5.10.5. Economics and Cost-effectiveness of N-LIST

The economics of a consortium are determined by factors such as number of beneficiary colleges, full-time potential users in these colleges, cost of e-resources subscribed and expenditure on e-resources per college and per potential user. Cost recovery, cost avoidance and (lower) rates of subscription are factors that determine economic viability and cost-effectiveness of consortia-based subscription to e-resources. These factors are discussed below briefly.

5.10.5.1. Cost Recovery

The recovery of cost incurred on e-resources subscribed through the N-LIST can be judged in terms of intensity of use of resources. The cost recovery is calculated on the presumption that if the electronic resources were not available through the N-LIST, articles downloaded from these resources by the member colleges would have been sourced on inter-library loan or through document delivery services at a cost of US \$ 15.00 per article (Average cost of article taken from a study conducted by the American Research Libraries (ARL). As is evident from the Fig. 30 given below that N-LIST has recovered the cost incurred on subscription for all e-resources.

The total cost that has been recovered for the year 2017 amounts to Rs. 106.55 crores as against the total expenditure of Rs. 6.77 crores with Rs. 99.77 crores as the cost of articles downloaded in excess.

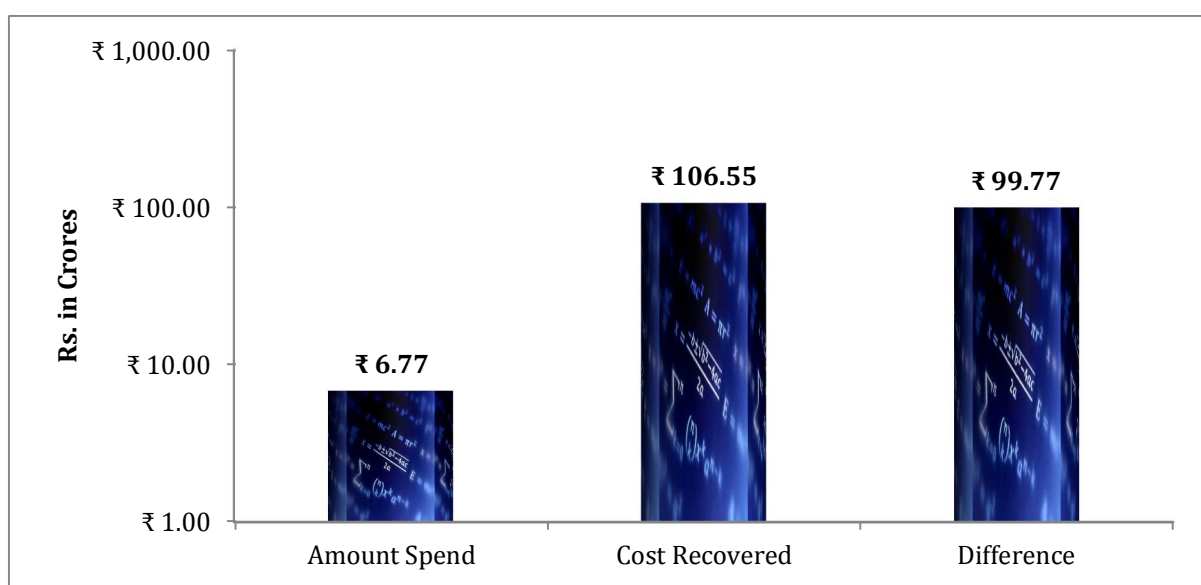


Fig.30: Cost Recovered for e-Journals Subscribed under the N-LIST for Year 2017

5.10.5.2. Lower Rates of Subscription

The N-LIST has used a highly innovative pricing model for subscription to e-resources wherein one subscription is paid for a set of 200 colleges given the fact that extending the prevalent pricing models to college would have been highly expensive, unaffordable and impractical for the college component of the N-LIST Programme. As such, a total number of 15 subscriptions (on prorated basis) were paid for around 3,000 colleges during the financial year under report. The average expenditure on e-resources for 3,000 colleges is around Rs. 25,400.00.

5.10.5.3. Cost Avoidance

Cost avoidance is calculated in terms of difference in cost paid for colleges under N-LIST and list price of e-resources including e-journals and e-books. Fig. 31 given below shows that there is a notional savings of Rs. 9,742.99 crores considering the fact that the same sets of e-resources on list

price would have cost Rs. 9735.96 crores as against Rs. 7.03 crores spent on subscription to e-resources under N-LIST for the year 2017.

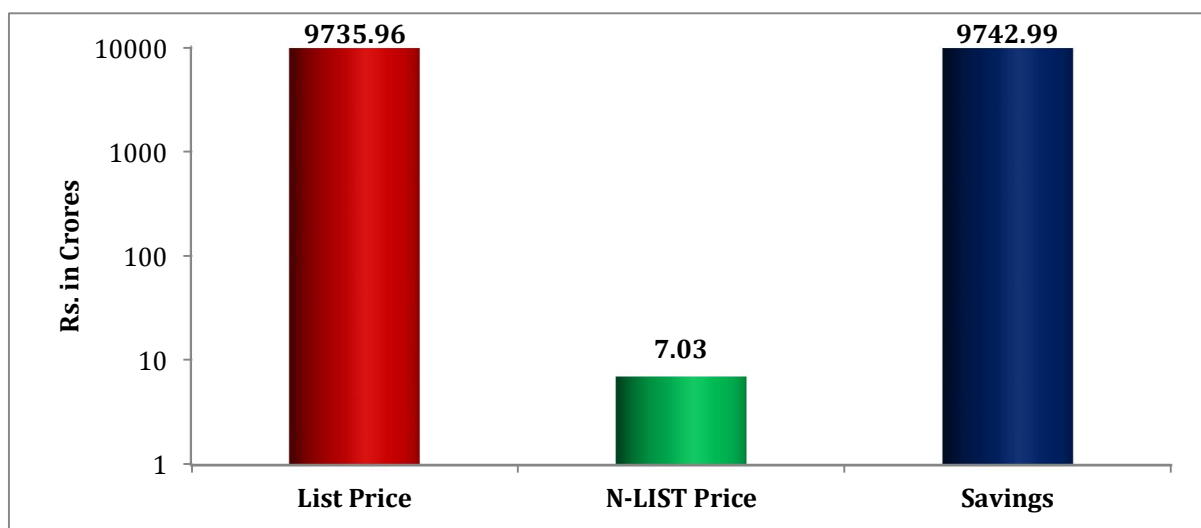


Fig. 31: Cost Avoidance for e-Resources Subscribed under the N-LIST for Year 2017

5.10.5.4. Annual Increase in Rates of Subscription

Annual increase in rates of subscription is restricted from 0 to 5% as against the usual increase in price of e-resources from 10 to 15%.

5.10.5.5. Average Cost of e-Journals Subscribed under the N-LIST

The N-LIST subscribes to a total number of 6,094 journals for its member colleges. The cost of subscription to e-resources comes down with increase in number of colleges. As such, average cost of a single journal per college computes to Rs. 2.67 in the year 2017 when only 2,972 colleges were enrolled for the scheme as per the Table 21 given below.

e-Resources	No. of Colleges	No. of Journals	Price per College per Title in Rs.
AIP	2000	18	344.26
Annual Reviews	3000	33	40.35
EPW	3000	1	850.00
Indian Journals	3000	186	10.15
IOP	2000	46	42.51
JSTOR	3000	2500	0.41
OUP	3000	206	7.80
RSC	2000	29	82.53
H.W. Wilson	3000	3075	0.83
Total	3000	6094	2.67

Table 21: Average Cost of e-Journals per College Subscribed under NLIST

5.10.5.6. Average Cost of E-books

Most of the e-books under N-LIST have already been purchased for all existing 2,972 colleges on “one-time purchase and perpetual access” basis, only Ebrary is being subscribed on annual subscription basis for 3000 colleges. Average cost per book per college in case of Ebrary was Rs. 0.06.

5.10.5.7. Increase in Research Output of Colleges having Access to e-Resources through NLIST

Success of a Consortium depends on the impact that it has on the quality of research that is carried out in the institutions that have benefit of access to e-resources. Since measuring research output of all 2,972 colleges would be difficult, 200 colleges that were member of NLIST for past six years, were selected for measuring their research output in terms of their research publications indexed in Web of Science. Constant and persistent increase in number of papers published by these 200 colleges can be seen in Fig. 32. The Coefficient Correlation between number of articles downloaded from e-resources provided through NLIST and number of articles produced by these 200 colleges is 0.83 that reflects strong and positive correlation between number of articles downloaded from e-resources and number of articles published by these colleges.

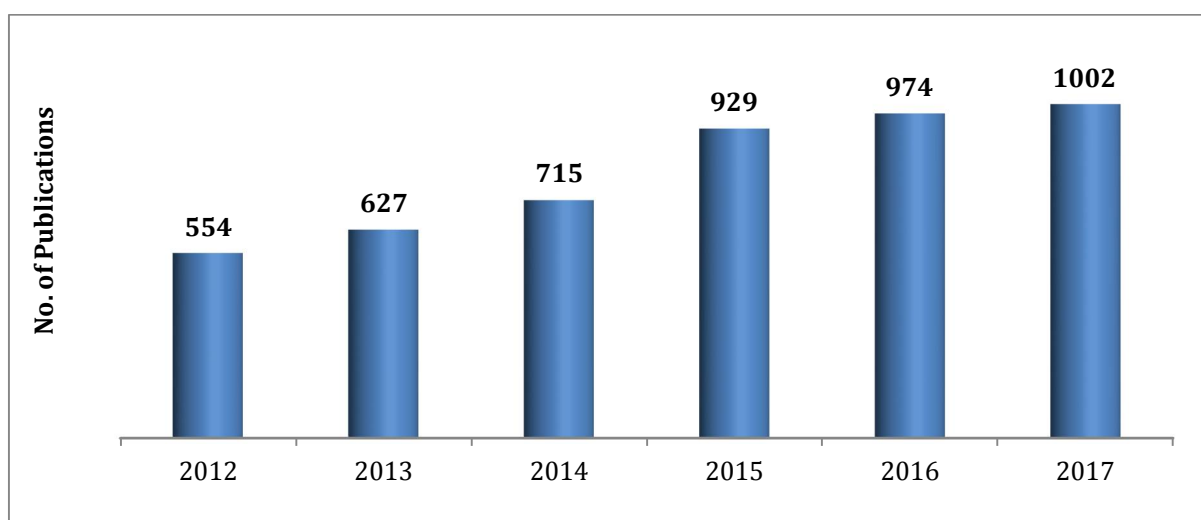


Fig. 32: Increase in Research Output of 200 Member Colleges from 2012 to 2017

5.11. INFLIBNET Access Management Federation (INFED) (<http://parichay.inflibnet.ac.in/>)

Jagdish Arora, Director
Yatrik Patel, Scientist D (CS)
Ashok Kumar Rai, Scientist D (CS)
Raja V., Scientist B (CS)

The INFLIBNET Access Management Federation (INFED), the first and only access management federation in India, based on Shibboleth, a standard-based open source software, for authenticating authorized users from colleges, universities and other institutes in India. The federation, set-up with

permission of the Governing Board, INFLIBNET Centre provides seamless access to e-resources from anywhere, anytime. INFED is member of eduGAIN.

As on 31st March, 2018, 48 institutes have joined INFED as per the details given below in Table 22 (a). The INFED is working with 32 publishers that are providing access to e-resources to e-Shodh Sindhu as per the details given below in Table 22(b). Moreover, four publishers have formally signed membership (^) of INFED as per the details given below. While seven institutes have set-up their own IDPs, (*) the Centre has setup and established IDPs on behalf of 15 institutes as per the details given below in Table 22 (a) & (b).

Institutes Members of INFED	
Acharya Nagarjuna University	Jawaharlal Nehru University
Alagappa University (*)	Kameshwar Singh Darbhanga Sanskrit University
Ambedkar University Delhi (*)	Kavikulaguru Kalidas Sanskrit University
Assam University	Kuvempu University
Avinashilingam University (*)	M S University
Bharathiar University	Madurai Kamaraj University (*)
Bharathidasan University (*)	Maharshi Dayanand University, Rohtak
Bharati Vidyapeeth Deemed University, Pune (*)	Mazharul Uloom College
BPS Mahila Vishwavidyalaya	National Institute for Research in Tuberculosis (*)
Central university of Kashmir	National Law School of India University, Bangalore
Central University of Kerala	National Law University, Odisha (*)
Central University of Punjab	NIT Rourkela
Central University of Rajasthan	Periyar University
Central University of Tamil Nadu (*)	Punjab University
E.G.S Pillay Engineering College, Tamil Nadu	Shivaji University, Kolhapur (*)
Gandhigram Rural Institute (*)	South Asian University (*)
Gurunanak Dev University	Sri Padmavathi Mahila Viswavidyalayam
IIMA (*)	Sri Venkateswara University, Tirupati
IISER Pune	Tumkur University
IISER Tirupati	University of Calicut
IIT Guwahati (*)	University of Kota, Rajasthan
IIT Bhubaneswar	Veer Surendra Sai University of Technology
Indira Group of Institutes, Pune	Vidyasagar University (*)
Integral University	
ISEC (Institute for Social and Economic Change)	

Table 22 (a): Institutes

(*) IDP setup done by INFLIBNET

Publishers Members of INFED	
ACM Digital Library (^)	MathSciNet
American Chemical Society (^)	Nature
American Institute of Physics	Optical Society of America (Optics InfoBase)
American Physical Society	Oxford University Press
Annual Reviews	Palgrave
ASCE Journals Online	Portland Press
ASME Journals Online	Project Euclid
ASTM Standards + Digital Library	Project Muse
Cambridge University Press	Proquest
Capitaline	Royal Society of Chemistry
CRIS INFAC Industrial Information (CRISIL)	SciFinder Scholar
EBSCO	Springer Link
Emerald Publishing	Taylor and Francis(^)
Euromonitor – Passport	Web of Science
IEEE/IET Electronic Library (IEL) Online (^)	Wiley Blackwell Publishing
Institute of Physics	
JSTOR	

Table 22 (b): Publishers

(*) IDP setup done by INFLIBNET

(^) Formally signed membership

The Centre has developed the minimal operating system (β) for the installation of Shibboleth Identity Provider and INFEDStat (β) to track the logged in users for the institutes.

6. e-Learning and e-Content Development

6.1. e-PG Pathshala: Production of courseware e-Content for Postgraduate Subjects

(<http://epgp.inflibnet.ac.in/>)

Jagdish Arora, Director

Abhishek Kumar, Scientist C (CS)

Kannan P. Scientist B (LS)

Shweta Brahmbhatt, Project Officer (CS)

Atul Patel, Project Associate (LS)

Shivani Joshi, Project Assistant (CS)

e-PG Pathshala is an initiative of the MHRD under its National Mission on Education through ICT (NME-ICT) being executed by the UGC. The content and its quality being the key component of education system, high quality, curriculum-based, interactive e-content in 70 subjects across all disciplines of social sciences, arts, fine arts and humanities, natural & mathematical sciences,

linguistics and languages are being developed by the subject experts (professor, associate professor, assistant professor or equivalent) working in universities (central, state, deemed) and other R & D institutes across the country. Every subject has a team of principal investigator, paper coordinators, content writers, content reviewers and multimedia team. A dedicated portal (<http://epgp.inflibnet.ac.in/>), to host the content, is available in open access. The development phase, in terms of recording of videos, has been done in September 2017. The PIs are delivering the e-content to UGC.

The Centre is responsible for the technical as well as administrative coordination of this project. Open source Learning Management System to host the e-content created in this project and e-Pathshala Management System to manage the administrative activities of this project have been developed.

6.1.1. Objectives

Major objectives of e-PG Pathshala are as follows:

- i) Develop e-content in 70 subjects at PG level drawing expertise from subject experts in colleges and universities;
- ii) Impart training to subject experts in the process of e-content creation;
- iii) Make e-content available to students and peers using different delivery modes so as to impart formal and informal education and for supplementing and complementing the process of teaching and learning in higher education; and
- iv) Promote usage of e-content amongst students and peers.

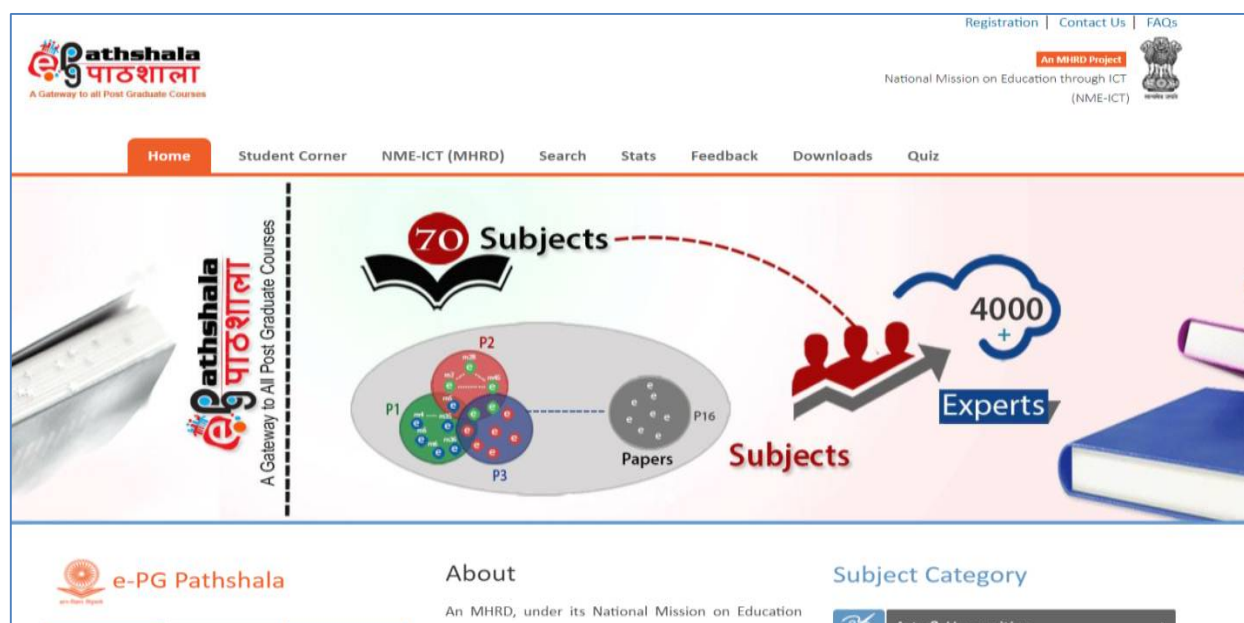


Fig. 33: Website of e-PG Pathshala (<http://epgp.inflibnet.ac.in/>)

6.1.2. Volume of Work and Team Involved in e-Content Development

Each subject consists of different core papers. Each paper comprises of 35-40 modules covering 40 hours of teaching. Each module consists of four quadrants, i.e. e-text, self-learning, self-assessment and learn more. All the four quadrants are being developed by academic team and multimedia team of each subject.

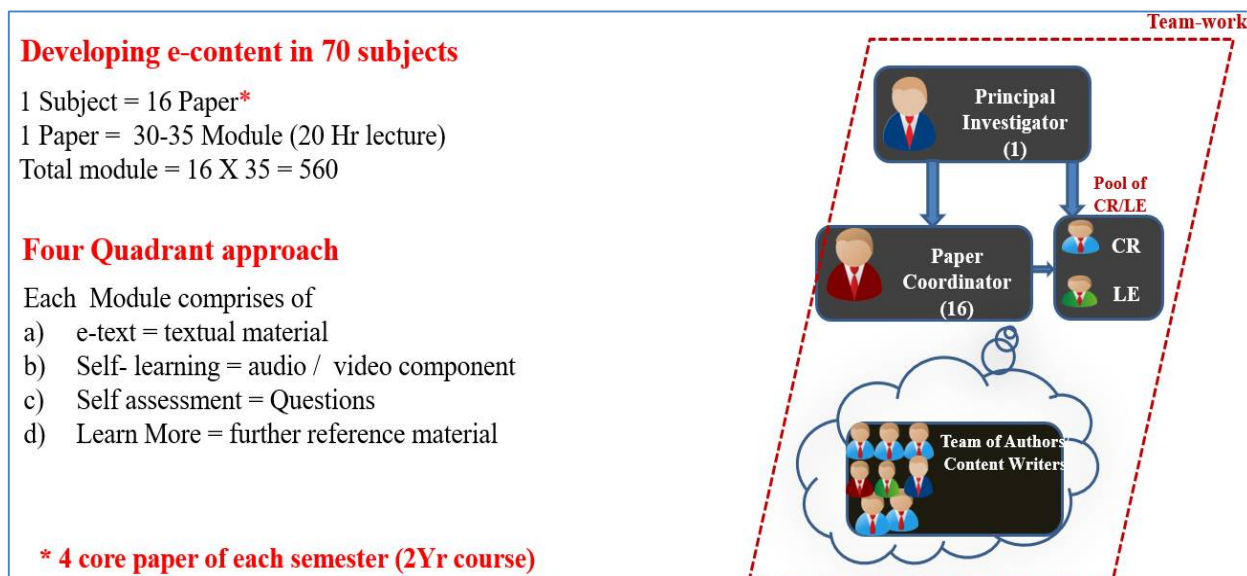


Fig. 34: Pictorial View of ePG Pathshala with Four Quadrants



Fig. 35: Pictorial View of ePG Pathshala with Four Quadrants and Volume of Work

6.1.3. Methodology

Standing Committee on e-PG Pathshala constituted by the UGC under the Chairmanship of Prof. M. Anandakrishnan, Chairman, Governing Board, IIT Kanpur, monitor and coordinate the activity of content creation in a most effective and efficient manner. Pictorial representation of methodology used for content creation is given below in Fig. 36.

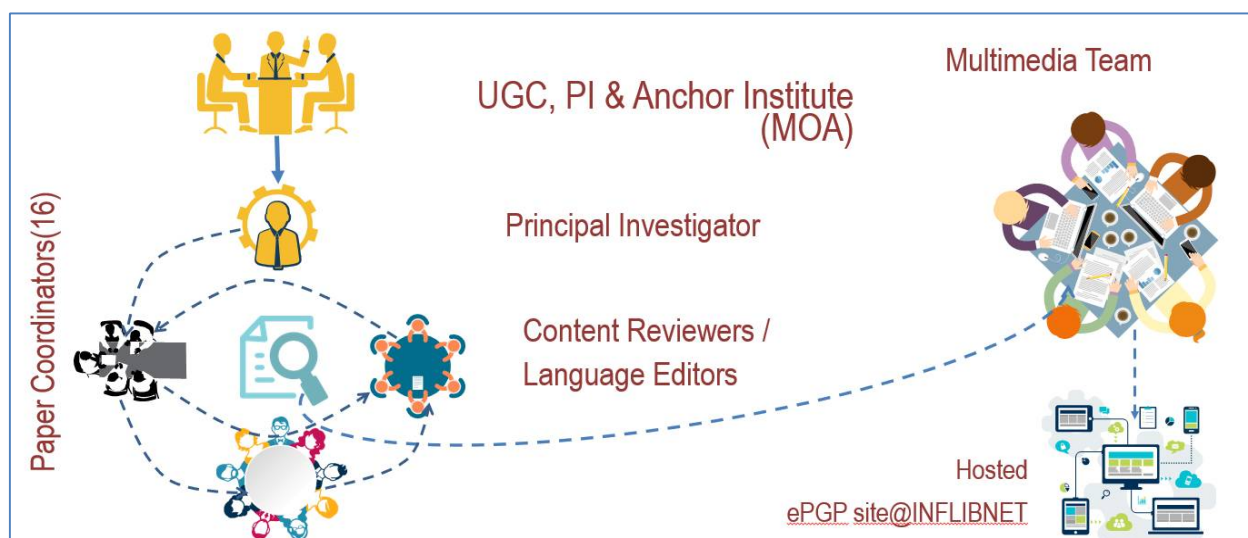


Fig. 36: Pictorial Representation of Methodology Used for Content Creation

6.1.4. Impact Analysis

The content of e-PG Pathshala is being viewed across the globe. As on March 2018, more than 33 lakhs visitors viewed the website. Pictorial representation of access to content accessible from e-PG Pathshala from across the globe is given below in Fig.37.

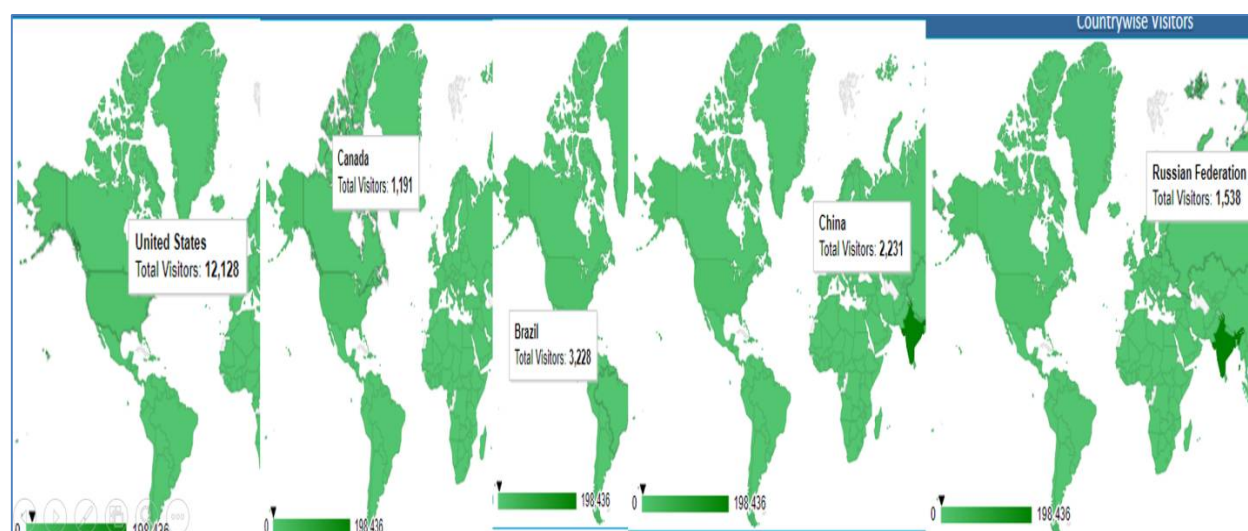


Fig. 37: Pictorial Representation of Access to Content Accessible from e-PG Pathshala from Across the Globe

6.1.5. Current Status

As on 31st March 2018, more than 18,000 e-text and more than 17,000 videos are hosted on e-PG Pathshala LMS along with other two components, i.e. self-assessment and Learn More. More modules are being delivered to the INFLIBNET Centre by concerned PIs as and when it is ready in four quadrants. There were 1,02,70,740 page views for e-PG Pathshala and Vidya-mitra (An Integrated e-Content Portal).

6.1.6. Involvement / Stack-holders Across the Country

Content creation needs dedicated team work. e-PG Pathshala involved 42 educational institutes comprising of Centrally Funded technological institutes like IIT's, NIT's, Central and State Universities etc. More than 30 centres which are specialized in multimedia via., Educational Multimedia Research Centre (EMMRC) and empanelled centres / agencies to execute the content creation task. Moreover, 5600 subject matter experts were also involved with more than 700 coordinators leading as Principle investigators (PIs) and Project coordinators (PCs). Three major Government bodies via., MHRD, UGC and INFLIBNET Centre were involved as a backbone of the initiative.

6.2. Vidya-Mitra: Integrated e-Content Portal

(<http://content.inflibnet.ac.in/> or <http://vidyamitra.inflibnet.ac.in>)

Jagdish Arora, Director
Yatrik Patel, Scientist D (CS)
Abhishek Kumar, Scientist C (CS)
Pallavi, Project Officer (LS)
Priya Varu, Project Officer (CS)
Darshan Modi, Project Associate (CS)
Rajeshri Makwana, Project Associate (LS)

Vidya-mitra (An Integrated e-Content Portal) is an online learning portal for all the e-content projects developed under the NME-ICT (National Mission on Education through Information and Communication Technology), MHRD. It is one of the largest e-content repository, under OER, in the world. It hosts more than 62,000 multimedia e-content / e-module developed by different Indian academic Institutions / SMEs under different project such as NPTEL, CEC, e-PG Pathshala, etc.

All contents developed under above mentioned projects are being made accessible through a single repository with search-browse, indexed, and user-friendly interface, and adopt digital preservation strategies to ensure long-term availability. Moreover, features of faceted search, usage statistics, project-wise access, My-Space are incorporated in this portal.

6.2.1. Objectives

- i) Provide single-point access to almost all e-content projects developed or being developed under NME-ICT, MHRD;
- ii) Provide a user-friendly and intuitive search and browse interface with inter-linking and cross-linking amongst contents on same subjects;
- iii) Access should be platform (browser) independent with seamless streaming; and
- iv) Promote usage of e-content amongst students and peers.



Fig. 38: Screenshot of Vidya-mitra Repository

6.2.2. Vidya-mitra: Dedicated Website

The Centre maintains a dedicated website for Vidya-mitra, a pictorial view given in Fig. 39 depicts navigational and layout features of content hosted in Vidya-mitra.

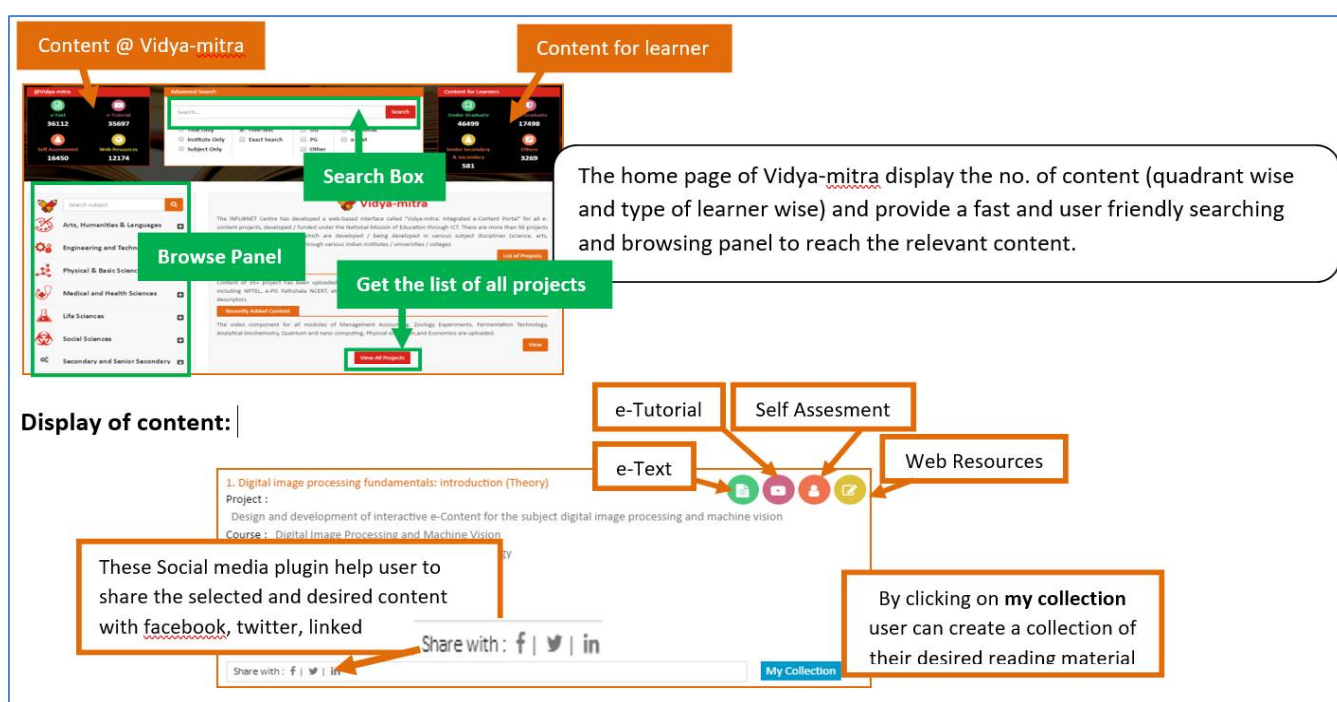


Fig. 39: Pictorial Representation of Navigational and Layout Features of Content Hosted in Vidya-mitra

6.2.3. New Feature: My-space

Vidya-mitra has integrated with new feature My-space, after registration with My-Space panel, users will be able to use the personalized service facility of Vidya-mitra portal. Benefit of registration

with My-Space: Registered user of My-Space panel of Vidya-mitra are able to create their own profile, can manage their collection, get update of new content and one can also contribute their project content by using this panel.

6.2.4. Mobile App

Mobile App was developed for Vidya-mitra: Integrated e-Content Portal for Android, Apple and windows, which can be, downloaded from their respective play stores.

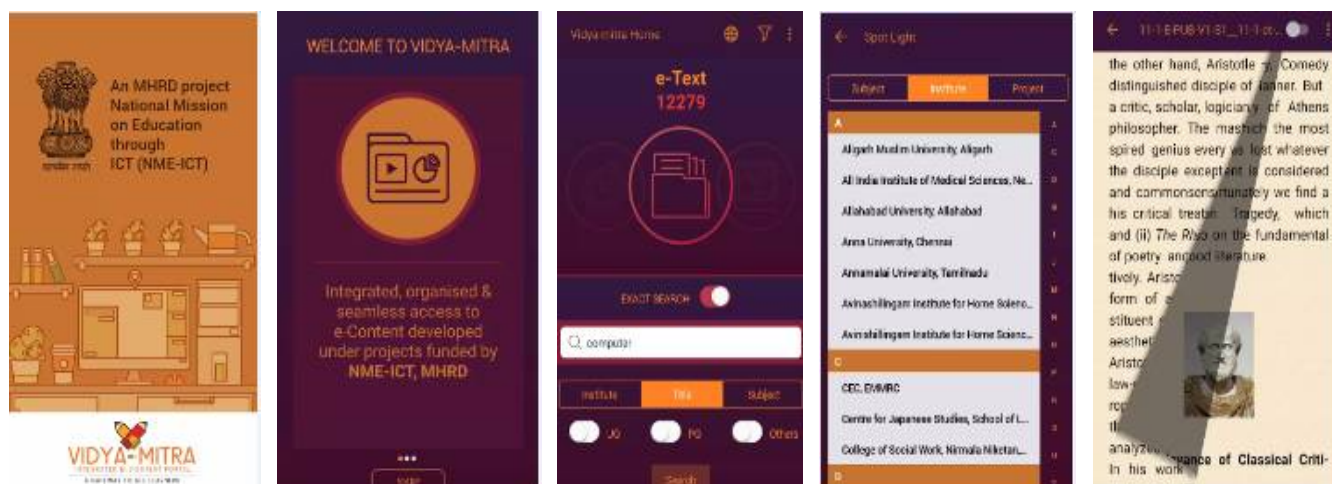


Fig. 40: Mobile App for Vidya-mitra

6.2.5. List of Projects Included in Vidya-mitra

Table 23 given below lists 44 projects on e-content creation whose content have been incorporated into Vidya-mitra.

Sl. No.	Name of Project	Sl. No.	Name of Project
1	e-PG Pathshala	23	e-Content Development for the Course on Family and Community Resource Management
2	CEC – UG Content	24	e-Book on Material Science & Engineering
3	Pathshala (NCERT)	25	e-Content Development for Real life Learning Applications using Soft Computing
4	NPTEL (IITs and IISc)	26	e-Content Development of Marketing Management
5	NIOS	27	e-Content for Under and Post Graduate Courses in English Language and Literature
6	e-Gyankosh (IGNOU)	28	e-Content for Undergraduate Students in Biochemistry
7	Content Generation for E-learning on Open Source VLSI and Embedded System	29	e-Content for Video Processing
8	Creating Digital Environment for Design in India – e-Kalpa	30	e-Content for Zoology Experiments

Sl. No.	Name of Project	Sl. No.	Name of Project
9	Creation of E-contents on Fermentation Technology	31	e-Content Generation and Delivery Management for Student-centric Learning
10	Design and Development of Interactive e-Content for the Subject Digital Image Processing and Machine Vision	32	E-content Generation for Adult and Non-Formal Education Programme
11	Design and Development of Next Generation e-Content for Software Reuse, Design Patterns and Frameworks	33	e-Content on Theory and Practice of Literary Translation
12	Developing ICT-based Pedagogical Practices for Management Accounting	34	E-Course Development in Economics
13	Developing the e-Content for Training and Development Modules for Managerial & Non-managerial Personnel	35	Learning by Doing (LBD) based Course Content Development - International Institute of Information Technology, Hyderabad
14	Development of e-Content for Fashion Design and Technology	36	Mathematical Sciences without Walls
15	Development of e-Content for Slope Engineering	37	Next Generation e-Content for High Performance Computing
16	Development of e-Content for Under-Graduate Student in Science in the Area of Chemical Process Industries	38	Next Generation e-Content for Numerical Methods and its Applications
17	Development of e-Content in Physical Education for Undergraduate and Postgraduate Courses	39	Production of Courseware e-Content Development, Video Programmes and Learning Object Repositories on Climate Change
18	Development of e-Content on Ancient Indian Metallurgy and Modern Process Metallurgy	40	Quantum and Nano Computing Virtual Centre
19	Development of e-Contents for Foundation Course on Pharmaceutical Microbiology	41	e-Content and Video in the Area of Manufacturing Technology for UG and PG Students and Industry Area
20	Development of e-Contents on Foundation Course on Analytical Biochemistry and Separation Techniques	42	UG Course Content in Cultural Education, Rural Development, Proficiency in Indian Music, Drawing & Painting , Journalism and Mass Communication
21	Development of Simplified Conceptual Content for Self-teaching on Advanced Engineering Topics	43	Use of Open Source software for Teaching Mathematics
22	Digital Library	44	Vocational Courses e-enabled with Delivery through ICT and Conversion to Regional Languages

Table 23: List of Projects Incorporated into Vidya-mitra

6.2.6. Current Status

The Centre has acquired e-content from Principal Investigators for 44 projects that were distributed on different locations / websites. As on 31st March, 2018, Vidya-mitra hosts more than 44,459 e-texts, 66,174 e-tutorials and 37,827 other e-material.

6.2.7. Recognition

The INFLIBNET Centre has been selected as the recipient of one of the OE 2018 Awards for Open Education Excellence for its Open Repository "VIDYA-MITRA: An Integrated e-Content Portal". The Award would be handed over to the INFLIBNET Centre during OEC Global Conference to be held in Delft, The Netherlands from 24-26 April, 2018.

6.3. Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)

Jagdish Arora, Director
Abhishek Kumar, Scientist-C (CS)
Shweta B, Project Officer (CS)
Happy Patel, Project Associate (CS)

Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM) is one of the ambitious projects of MHRD that aims to deliver MOOC courses to the learners from higher secondary education to higher education. The primary objective of this programme is to reach out to the learners in masses in all the age groups and provides better online learning environment to the academic community in the country. It covers all courses from high school to post-graduate including skill sector courses to ensure that every learner benefits from learning material available on SWAYAM. The SWAYAM offers:

- One-stop web and mobile based interactive e-content for all courses from high school to university level;
- High quality learning experience using multimedia on anytime, anywhere basis;
- State-of-the-art system that allows easy access, monitoring and certification;
- Peer group interaction and discussion forum to clarify doubts; and
- Hybrid model of delivery that adds to the quality of classroom teaching.

The MHRD has appointed seven national coordinators in seven different domain. UGC is the "National Coordinator" for development of MOOCs for non-technology post-graduation degree programmes. UGC has also issued "Credit Framework for Online Learning Courses through SWAYAM" Regulation 2016.

The INFLIBNET Centre has been given the responsibility for coordination and disbursement of funds for development of MOOCs for SWAYAM platform and development of web interface for course

proposals and dedicated portal for UGC-MOOCs. Portal provides dashboard for SWAYAM coordinators, mentors, information on PG-courses, update, workshop details, etc.

84 courses have been prepared / re-purposed for the MOOCs across 16 subjects that are being offered on SWAYAM platform. Moreover, UGCs has allocated funds for development of new courses under SWAYAM. There are 44 courses commencing for the academic session July, 2018.



Fig. 41: Home pages of UGC-MOOCs

The dedicated portal (<https://ugcmoocs.inflibnet.ac.in>) of UGC MOOCs was launched on 2nd February 2018 by the Chairman, UGC during Orientation Workshop on the Roles and Responsibilities of the University and its SWAYAM Coordinators at AICTE, New Delhi.

6.3.1 MOOC Courses in Library and Information Science

Jagdish Arora, Director
Kannan P, Scientist C (LS)
Iliyas Mansuri, Project Associate (LS)

The INFLIBNET Centre is responsible for re-purposing the course content from content created under e-PG Pathshala in library and information science and coordinate their course delivery through SWAYAM Platform.

Seven such courses, launched on SWAYAM platform in the month of November 2017, were successfully completed during the period under report. These seven courses of 15 weeks duration

attracted a total number of 3917 learners including a course on digital, libraries, which alone attracted 1518 learners as per the details given in the Table 24.

Sl. No.	Course Title	Course Coordinators/ Co-Course Coordinators and Affiliation	Number of Learners Enrolled
1.	Knowledge Society	Prof. K. S. Raghavan, Rtd. Professor, DRTC, Indian Statistical Institute, Bangalore.	311
2.	Information Sources System and Services	Dr Renu Arora, Rtd. Senior Scientist, National Institute of Science Communication and Information Resources, New Delhi.	357
3.	Information and Communication Technology for Libraries	Dr Usha Munshi, Librarian, Indian Institute of Public Administration, New Delhi.	569
4.	Management of Libraries and Information Centres and Knowledge Centres	Prof. Dinesh Gupta, Professor, Dept. Library and Information Science, Vardhaman Mahaveer Open University, Kota, Rajasthan.	525
5.	Information Storage and Retrieval	Prof. Devika Madalli, Professor, DRTC, Indian Statistical Institute, Bangalore.	339
6.	Digital Libraries	Dr. Jagdish Arora, Director, INFLIBNET Centre. Mr. Kannan P, Scientist C, INFLIBNET Centre.	1518
7.	Scientometrics and Bibliometrics	Prof. I.K. Ravichandra Rao, Rtd. Director, DRTC, Indian Statistical Institute, Bangalore.	298
	Total Learners		3917

Table 24: Courses in Library and Information Science on SWAYAM, their Coordinators and Number of Enrolled Learners

Learners from across the country actively participated during 15-week courses through various activities and assignments such as reading e-text and watching self-learning modules, submission of weekly assignments, attempting weekly tests, etc. The weekly assignments were evaluated by the course coordinators and grades were assigned for each lesson. The Centre conducted proctored examination for the eligible learners on 17th February 2018 at INFLIBNET Centre, Gandhinagar. The Course completion certificate were issued to eligible learners.

Considering the popularity and demand of these courses, the Ministry of Human Resource Development (MHRD) has approved their re-launch of all the seven courses for the second consecutive year beginning July 2018.

6.4. SWAYAM-PRABHA

Jagdish Arora, Director
Abhishek Kumar, Scientist C (CS)
Atul Patel, Project Associate (LS)
Kruti Danak, Project Associate (CS)

The INFLIBNET Centre was assigned the task of developing portal of SWAYAM-PRABHA and its hosting including archiving of videos for all the channel. The platform provides for uploading of programme schedule by the channel coordinators, display of programme schedule (current, upcoming and archives), searching of e-content/videos using different kinds of filters such as channel-wise search and subject-wise search, dashboard for MHRD, BISAG and Admin View. The portal also provides for playing of archival videos that have already been telecasted on the channels.

The SWAYAM-PRABHA, an MHRD project under NME-ICT, is conceived as a group of 32 DTH channels devoted to telecasting of high-quality educational programmes on 24X7 basis using the GSAT-15 transponders. New content for at least four hours are being telecasted that would be repeated 5 more times in a day, allowing the student to choose the time slot as per their convenience.

The DTH Channels covers the followings:

- » Higher Education: Curriculum-based course contents at post-graduate and under-graduate level covering diverse disciplines such as arts, science, commerce, performing arts, social sciences and humanities, engineering, technology, law, medicine, agriculture, etc. All courses would be certification-ready in their detailed offering through SWAYAM, the platform for offering MOOCs courses.
- » School education (9-12 levels): modules for teacher's training as well as teaching and learning aids for children of India to help them understand the subjects better and also help them in preparing for competitive examinations for admissions to professional degree programmes.
- » Curriculum-based courses that can meet the needs of life-long learners of Indian citizens in India and abroad.
- » Assist students (class 11th & 12th) prepare for competitive exams including JEE, NEET, etc.

SWAYAM-PRABHA was launched on 9th July 2017 by the Hon'ble President of India Shri Pranab Mukherjee in presence of Hon'ble Minister of HRD, Shri Prakash Javadekar.



(Prof. V S Chauhan, Acting Chairman, UGC, Prof. Anil Sahasrabudhe, Chairman, AICTE, Shri K K Sharma, Secretary, MHRD, Govt. of India, Shri Prakash Javadekar, Minister of HRD, Govt. of India, Hon'ble Shri Pranab Mukherjee, President of India, Dr. M N Pandey, Minister of State for Higher Education, Govt. of India, Shri Ajay Prakash Sawhney Secretary, MeitY, Dr. Arvind Subramanian, Chief Economic Adviser, Govt. of India, Shri R. Subrahmanyam, Additional Secretary (HE), Govt. of India) (Left to Right)

Fig. 42: SWAYAM-PRABHA Launch

Dr Jagdish Arora, Director, INFLIBNET Centre and Sh Abhishek Kumar, Scientist-C, INFLIBNET Centre attended the inaugural function of SWAYAM-PRABHA at Vigyan Bhawan, New Delhi.

Channels Details

Details of SWAYAM-PRABHA's Channels and Channel Route is given below in Table 25 which also shows viewers and subscribers of video content hosted on SWAYAM-PRABHA portal from August 2017 to 31st March 2018.

Channels 01-10 Managed by UGC/CEC, New Delhi. Content are being telecasted for UG/PG students.



Fig. 43: SWAYAM-PRABHA's Channels 1-10

Channel No.	Channel Name	Channel Route/Parent	Web-view#	Web Subscriber*
1	Channel 01: CEC/UGC: Humanities- 1, Language and Literature	EMRC, EFLU, Hyderabad	557371	6848
2	Channel 02: CEC/UGC: Humanities- 2, Arts, History, Philosophy and related subjects	CEC, New Delhi	172637	1769
3	Channel 03: CEC/UGC: Social Science -1, Sociology, Political Science and related subjects	CEC, New Delhi	23150	358
4	Channel 04: CEC/UGC: Social Science - 2, Education, Psychology, Home Science and related subjects	CEC, New Delhi	105243	997
5	Channel 05: CEC/UGC: Social Science - 3, Management, Library Science, Information Science and related subjects	EMRC / MCRC, Jamia Millia Islamia, New Delhi	30066	721
6	Channel 06: CEC/UGC: Social Science - 4, Law, Legal Studies, Human Rights and related subjects	EMRC, Punjabi University, Patiala	27697	444

Channel No.	Channel Name	Channel Route/Parent	Web-view#	Web Subscriber*
7	Channel 07: CEC/UGC: Economics, Commerce and Finance	EMRC, Gujarat University, Ahmedabad	96197	1395
8	Channel 08: CEC/UGC: Physical Sciences, Mathematics, Physics, Chemistry and related subjects	EMRC, University of Calicut	162008	2278
9	Channel 09: CEC/UGC: Life Sciences, Botany, Zoology, Bio-Science and related subjects	EMRC, Kashmir University, Srinagar	126630	1682
10	Channel 10: CEC/UGC: Applied Sciences, Allied Physical and Chemical Sciences and related subjects	EMRC, Anna University, Chennai	25653	418

Table 25: SWAYAM-PRABHA's Channels 1-10

Channels 11 to 18 Managed by NPTEL. Its content is being telecasted for engineering students.

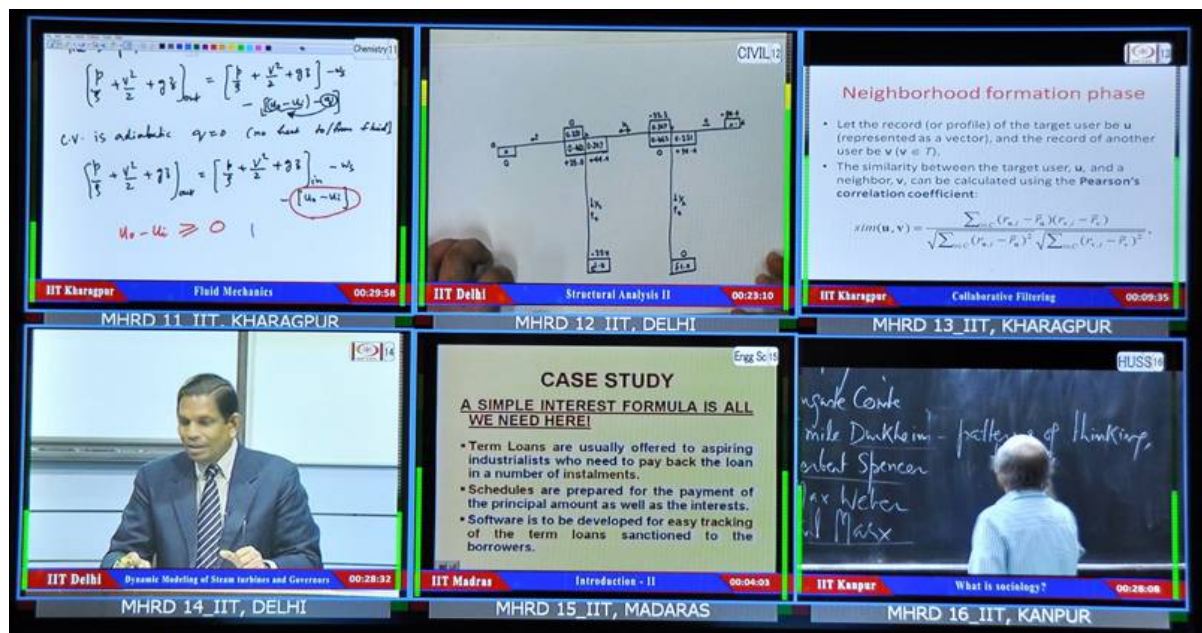


Fig. 44: SWAYAM-PRABHA's Channels 11-18

Channel No.	Channel Name	Channel Route/Parent	Web-view#	Web Subscriber*
11	Channel 11: NPTEL: Chemical Engineering, Chemistry and related subjects	IIT Kharagpur	2734	55
12	Channel 12: NPTEL: Civil Engineering and related subjects	IIT Delhi	1310	41
13	Channel 13: NPTEL: Computer Science and Engineering	IIT Kharagpur	3637	50
14	Channel 14: NPTEL: Electrical Engineering, Electronics and Communication Engineering and related subjects	IIT Delhi	766	38
15	Channel 15: NPTEL: Engineering Sciences and General subjects for Engineering	IIT Madras	709	22
16	Channel 16: NPTEL: Humanities, Social Sciences and Management	IIT Kanpur	411	24
17	Channel 17: NPTEL: Mechanical Engineering and related subjects	IIT Kanpur	3233	62
18	Channel 18: NPTEL: Mathematics, Physics, Metallurgy and related subjects	IIT Tirupati / IIT Madras	7288	88

Table 26: SWAYAM-PRABHA's Channels 11-18

Channels 19 -22 Managed for High School Students by IIT Delhi and is called IIT PAL. It covers Physics, Chemistry, Biology and Mathematics which is useful for the preparation of national entrance exam such as JEE, NEET, etc

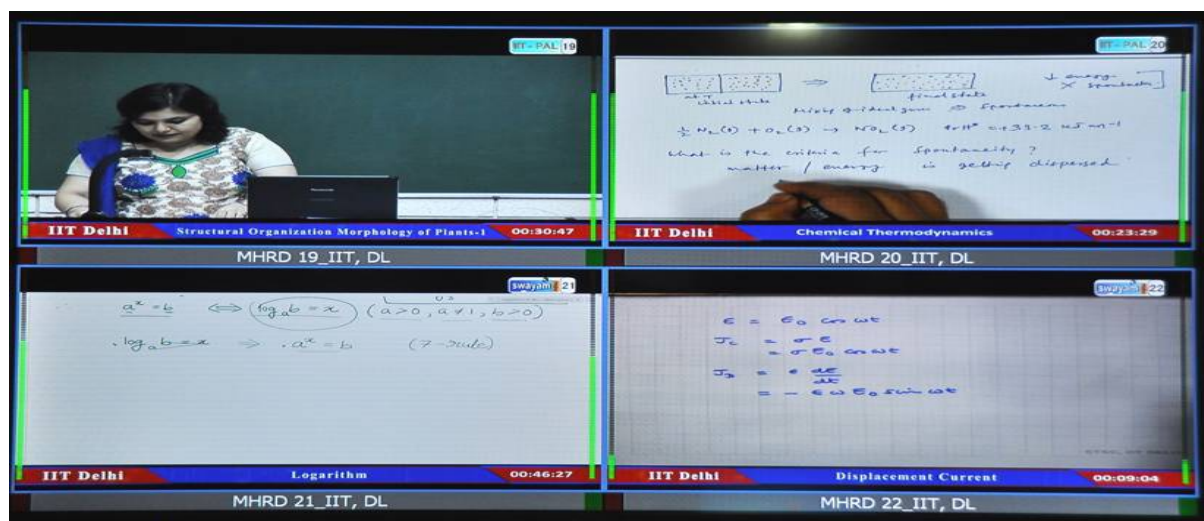


Fig. 45: SWAYAM-PRABHA's Channels 19-22

Channel No.	Channel Name	Channel Route/Parent	Web-view#	Web Subscriber*
19	Channel 19: IIT PAL: Biology	IIT PAL 1 IIT Delhi	39045	960
20	Channel 20: IIT PAL: Chemistry	IIT PAL 2, IIT Delhi	100398	2751
21	Channel 21: IIT PAL: Mathematics	IIT PAL 3, IIT Delhi	44403	1144
22	Channel 22: IIT PAL: Physics	IIT PAL 4, IIT Delhi	71661	2693

Table 27: SWAYAM-PRABHA's Channels 19-22

Channels 23 to 26 Managed by IGNOU, New Delhi.

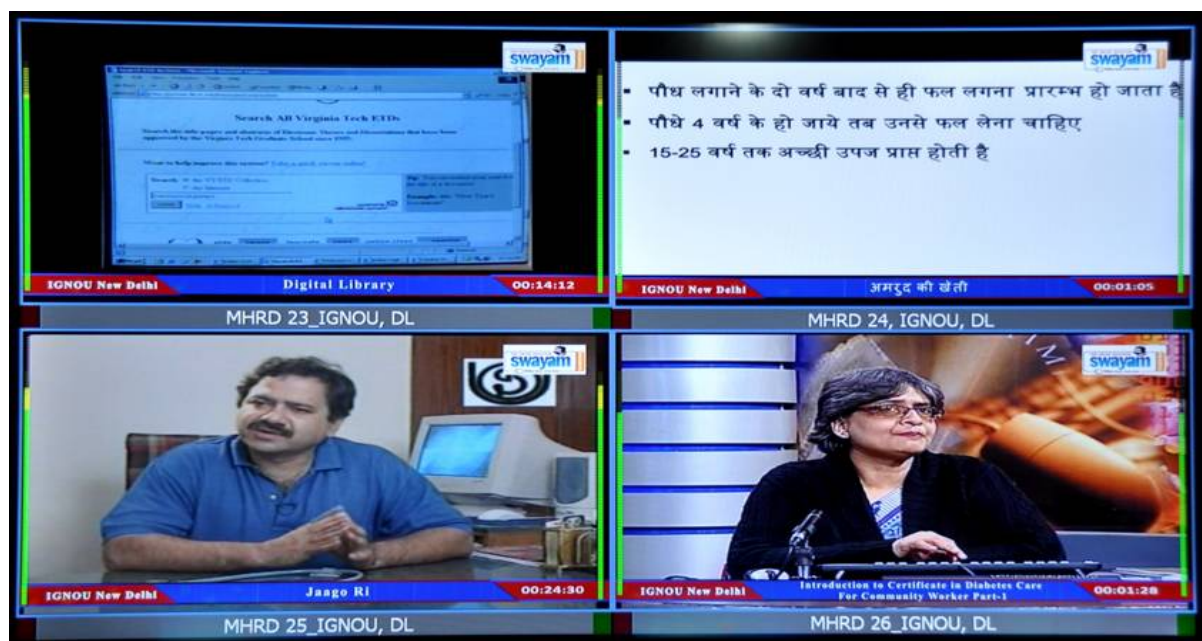


Fig. 46: SWAYAM-PRABHA's Channels 23-26

Channel No.	Channel Name	Channel Route/Parent	Web-view#	Web Subscriber*
23	Channel 23: IGNOU: Liberal Arts and Humanities	IGNOU, New Delhi	282	26
24	Channel 24: IGNOU: Agriculture, Vocational and Allied Sciences	IGNOU, New Delhi	814	50
25	Channel 25: IGNOU: Culture	IGNOU, New Delhi	3459	105
26	Channel 26: IGNOU: State Open Universities' Programs	IGNOU, New Delhi	103	13

Table 28: SWAYAM-PRABHA's Channels 23-26

Channels 27 and 28 Managed by the NIOS, New Delhi which is for Open education.

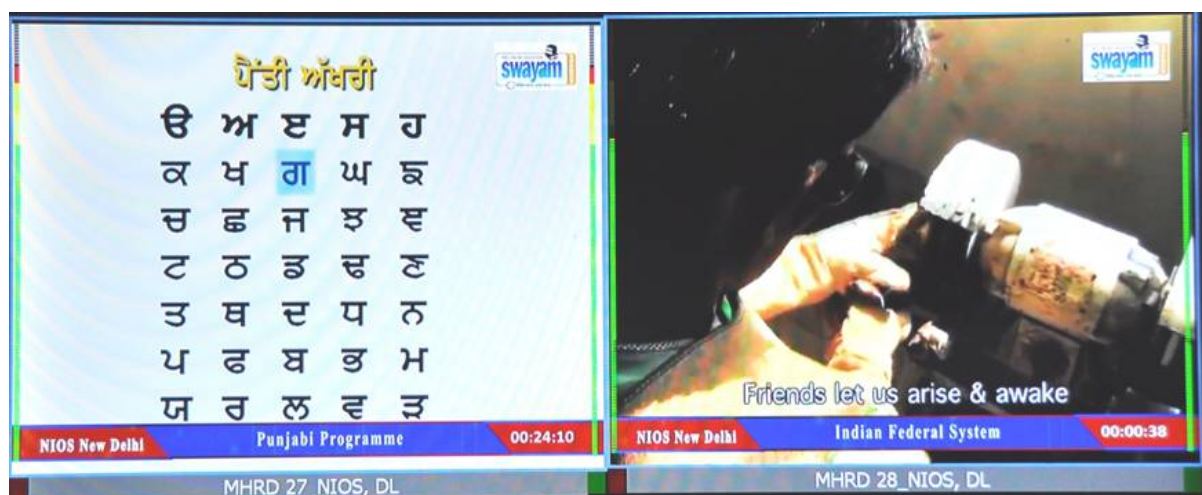


Fig. 47: SWAYAM-PRABHA's Channels 27-28

Channel No.	Channel Name	Channel Route/Parent	Web-view#	Web Subscriber*
27	Channel 27: NIOS: Secondary School Education	NIOS, New Delhi	28361	510
28	Channel 28: NIOS: Higher Secondary School Education	NIOS, New Delhi	12232	305

Table 29: SWAYAM-PRABHA's Channels 27-28

Channels 29 and 30 Managed QEEE, IIT Madras

Channel No.	Channel Name	Channel Route/Parent	Web-view#	Web Subscriber*
29	Channel 29: QEEE: QEEE 1 (Live Classes in Engineering and Technology)	IIT Madras	2261	87
30	Channel 30: QEEE: QEEE 2 (Live Classes in Engineering and Technology)	IIT Madras	8186	352

Table 30: SWAYAM-PRABHA's Channels 29-30

Channel 31 Managed by NCERT for school education.

Channel No.	Channel Name	Channel Route/Parent	Web-view#	Web Subscriber*
31	Channel 31: NCERT: School and Teacher Education	NCERT, New Delhi	3677	85

Table 31: SWAYAM-PRABHA's Channel 31

Channel 32 Managed by IGNOU and NIOS Jointly

Channel No.	Channel Name	Channel Route/Parent	Web-view#	Web Subscriber*
32	Channel 32: IGNOU and NIOS: Teacher Education	IGNOU and NIOS, New Delhi	548045	10432

Table 32: SWAYAM-PRABHA's Channel 32

Additional Mode for Source of Content / Learning

All video contents, once telecasted are available through the portal of SWAYAM-PRABHA on its Youtube, channels. Users can view this content at any time on their convenience. SWAYAM-PRABHA learner can install the mobile-app (android) and view all the video content. Mobile-app is being incorporated in UMANG, an app developed by Ministry of Electronics and Information Technology (MeitY) and National e-Governance Division (NeGD) to drive Mobile Governance in India. Learners can also view the SWAYAM-PRABHA content through JIO-TV (live) as well as archived content of last 7 days.

6.5. E-Learning Portal for Consortium for Educational Communication (CEC)

The Centre has signed Memorandum of Understanding (MoU) with **Consortium for Educational Communication (CEC)** on 18th October, 2017. The overall objective of the MoU is to design, develop and host website of CEC along with hosting of e-content developed by CEC and its EMRCs. The Centre has developed two templates for CEC for their approval.

7. Ranking of Institutions and Accreditation Work for NBA and NAAC

7.1. India Rankings 2018 under National Institutional Ranking Framework (NIRF)

The stage for launching India Rankings 2018 was set successfully for the third consecutive year with INFLIBNET Centre playing a pivotal role in the process. Services of the INFLIBNET Centre were engaged for the third consecutive year for i) development, maintenance and updation of ranking platform and NIRF Web site; ii) development of online data capturing module; iii) development of online perception capturing module and feedback mechanism; iv) retrieving data on publications, citations and highly-cited papers for all applicant institutions; and v) hand-holding applicant institutions in the process of online filling of their applications through technical help desk set-up for this purpose at INFLIBNET.

The NIRF provides for ranking of institutes under five broad generic parameters, namely: i) Teaching, Learning and Resources; ii) Research and Professional Practice; iii) Graduation Outcome; iv) Outreach and Inclusivity; and v) Perception. Fig. 41 given below, provides an outline of the sub-parameters for each of the five generic parameters. However, some of the sub-parameters had to be dropped due to serious lack of reliability and consistency of data from applicant institutions.

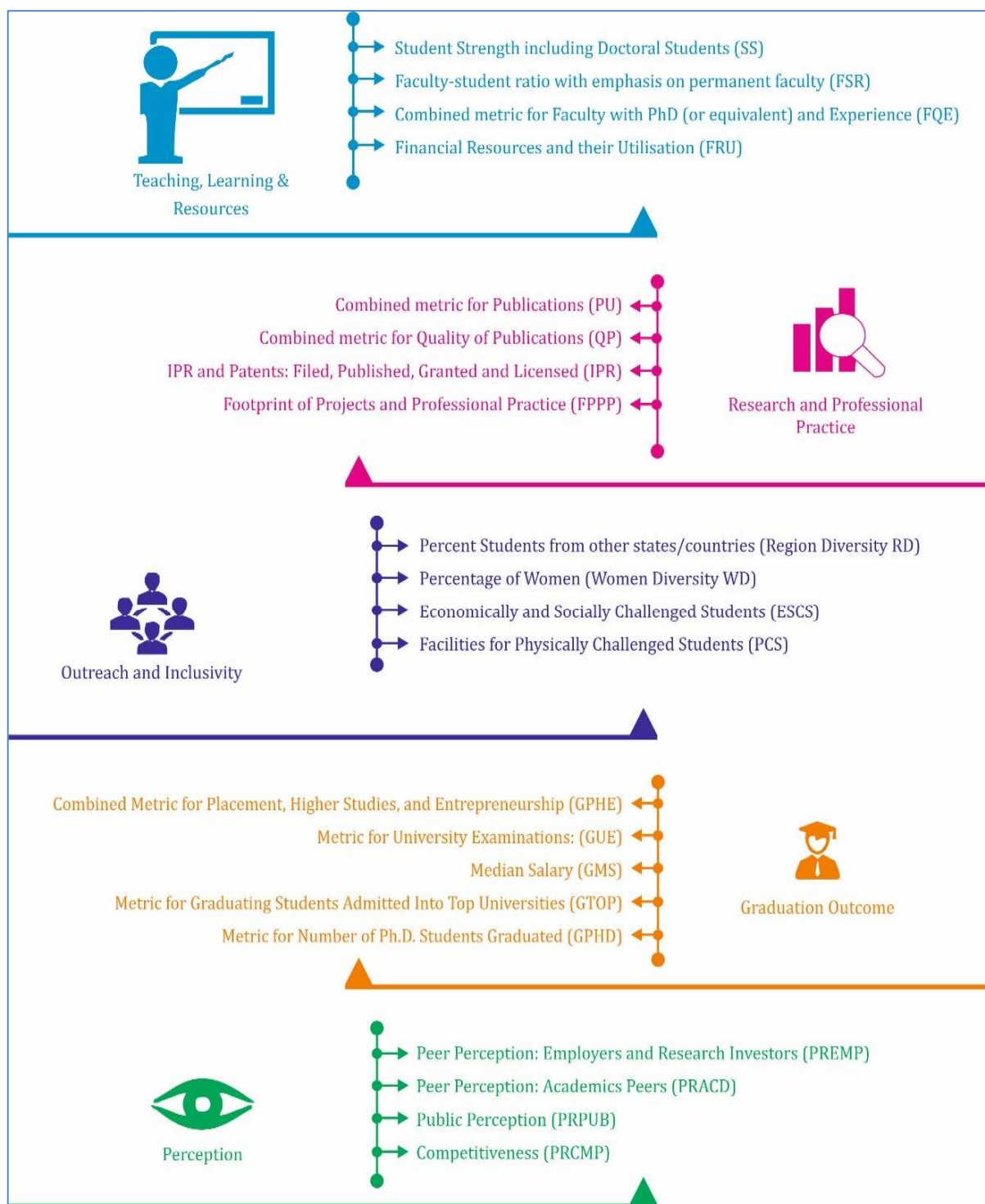


Fig. 48: NIRF Parameters for Ranking of Institutes

India Rankings 2018 continued with the practise of providing a common overall rank and in addition, a separate rank for Universities, and discipline-specific ranks for the disciplines of Engineering, Management and Pharmacy as well as three new discipline-specific ranks in Law, Medical and Architecture. General degree colleges are also being ranked for the second consecutive year with much larger participation of colleges.

7.1.1. India Rankings 2018: Participation Profiles

Institutes desirous of participating in the India Rankings 2018 were invited to register on the NIRF Web portal and submit their applications online for overall ranking as well as for one or more disciplines along with relevant data in the given format. The final picture of participation is summarised in Tables No. 33 & 34.

Category / Discipline	Total No. of Institutes	CFTIs & CFUs	Other Universities
Overall	957	89	315
Engineering	906	60	154
Management	487	26	100
Pharmacy	286	4	57
Architecture	59	8	27
College	1087	1	10
Medical	101	2	40
Law	71	4	41
Total	3954	194	744

Table 33: Number of Participating Institutions for Overall and Discipline Specific Rankings

Discipline / Region	Overall	Engg	Mgmt.	Pharmacy	Architecture	Colleges	Medical	Law
North	180	69	27	17	17	49	4	8
North-east	24	121	101	45	0	113	29	21
South	276	17	7	3	17	50	1	3
South-east	190	285	130	51	6	308	37	9
East	74	226	119	80	6	326	6	11
West	213	188	103	90	13	241	24	19
Total	957	906	487	286	59	1087	101	71

Table 34: Region-Wise Distribution of Institutes Registered for India Rankings 2018

India Rankings 2018 is scheduled for launch by Shri Prakash Javadekar, Hon'ble Union Minister of Human Resource Development, Government of India on 3rd April, 2018 at Vigyan Bhawan, New Delhi.

7.1.2. India Rankings 2017

"India Rankings 2017" using National Institutional Ranking Framework (NIRF), was launched by Shri Prakash Javadekar, Hon'ble Union Minister of Human Resource Development, Government of India on 3th April, 2017 at Shastri Bhawan, New Delhi. The Centre played a pivotal role in this process along with NBA. Details of ranked institutions are available at www.nirfindia.org. India Rankings 2017 gave a common overall rank to all major institutes, and in addition, a separate rank were given for the Universities, and domain-specific rank were given to institutions in the disciplines of

Engineering, Management and Pharmacy. General degree colleges were also ranked for the first time in the year 2017. Team involved in NIRF 2017 listed below in Table no.35.

7.1.3. India Rankings Team@ INFLIBNET Centre

Sl. No.	Name	Team Member
1	Dr. Jagdish Arora	Director
2	Mr. Abhishek Kumar	Core
3	Mr. Hitesh Solanki	Core
4	Mr. Raja V	Core
5	Mr. Dharmesh Shah	Core
6	Ms. Kruti J. Trivedi	Bibliometrics-Lead
7	Mr. Pallab Pradhan	Bibliometrics
8	Mr. Mohit Kumar	Print and Publishing
9	Ms. Maheshwari G Rathod	System Development
10	Ms. Vinothine K.	System Development
11	Ms. Khusboo Patel	System Development
12	Mr. Mihirkumar Prajapati	System Development

Sl. No.	Name	Team Member
13	Mrs. Deepti S Pandey	Bibliometrics
14	Ms. Anita Kushwaha	Bibliometrics
15	Ms. Shivani Thakur	Bibliometrics
16	Ms. Vichitra V	Bibliometrics
17	Mr. SudamSahoo	Bibliometrics
18	Mrs. Pallavi	Helpdesk
19	Mr. Ramswaroop Ahirwar	Helpdesk
20	Ms. Kinjal R. Solanki	Helpdesk
21	Mr. Piyush Priy	Helpdesk
22	Ms. Miral Mehta	Helpdesk
23	Ms. Jinal Jakasaniya	Helpdesk
24	Mrs. Ishita Patel	Helpdesk

Table 35: Team NIRF at INFLIBNET

7.2. Accreditation Work for e-NBA and NAAC

7.2.1. e-NBA: Accreditation Workflow Management System (AWMS)

Jagdish Arora, Director
 Abhishek Kumar, Scientist C (CS)
 Hitesh Solanki, Scientist-B (CS)
 Raja V, Scientist-B (CS)
 Dharmesh Shah, STA (CS)

Appreciative of work done by INFLIBNET Centre for India Rankings since its inception, authorities of NBA took a decision to assign the project entitled "Accreditation Workflow Management System (AWMS)" to INFLIBNET Centre, which involved automation of accreditation workflow, and its management done by NBA of technical institutions in India. Workflow Management System (AWMS) would provide automation process of accreditation starting from one-time registration to generation of accreditation report. Its life cycle includes registration, submission of request for accreditation, evaluation process, onsite visit, evaluation reports, communication among evaluators over system and accreditation reports. Currently, the Centre is working on Pre-Qualifier module.

7.2.2. MoU with National Assessment and Accreditation Council (NAAC)

The Centre has signed Memorandum of Understanding (MoU) with National Assessment and Accreditation Council (NAAC) on 12th September 2017. The purpose of signing MoU between the two institutes is validation of bibliometric data of colleges and universities that are applicant for NAAC accreditation and assessment. So far, the Centre has provided bibliometric data to NAAC for institutions that were applicant for accreditation in the first two rounds. The Centre has also developed guidelines for institutions regarding methodology used for retrieving data on publications, citations, H-index, etc. from Web of Science and Scopus.

8. VIDWAN: and Research Information Management (RIM) Service

Kannan P, Scientist C (LS)

Abhishek Kumar, Scientist C (CS)

Iliyas Mansuri, Project Associate (LS)

8.1. VIDWAN: Expert Database National Researcher's Network (<http://vidwan.inflibnet.ac.in>)

VIDWAN: Expert Database and National Researcher's Network is the premier database of profiles of scientists and faculty members working in leading academic institutions and other R & D organizations in India and abroad. The principle objectives of this database are i) provide information about experts to peers, prospective collaborators, funding agencies, policymakers and research scholars in the country; ii) to establish communication between subject experts and research scholars; iii) to identify peer reviewers for reviewing articles and research proposals; iv) to create information exchanges and networking opportunities among scientists; and v) to discover prospective collaborators for on-going research projects.

A persistent URL, username and password are issued to each expert facilitating them to edit and update their profile information. Data ingest dashboard was developed to import the profile information as administrator. Solr based faceted search interface was incorporated to search the database on various parameters such as name, designation, area of expertise, organization, organization type, state, etc. with filters to narrow down the search. The profiles of an expert can also be browsed by Web of Science Subject Categories and organization categories. As on 31st March, 2018, the database contained 24,578 profiles from more than 2,900 institutions including academic and R&D organizations in India and abroad. Also, VIDWAN database contains more than 3,25,000 bibliographic records which can potentially bring greater visibility to the research contributions of an expert through Vidwan database. Fig. 49 depicts screenshot of website of VIDWAN: Expert Profile with Co-author Network. Total page views for VIDWAN expert database are 1,69,420.

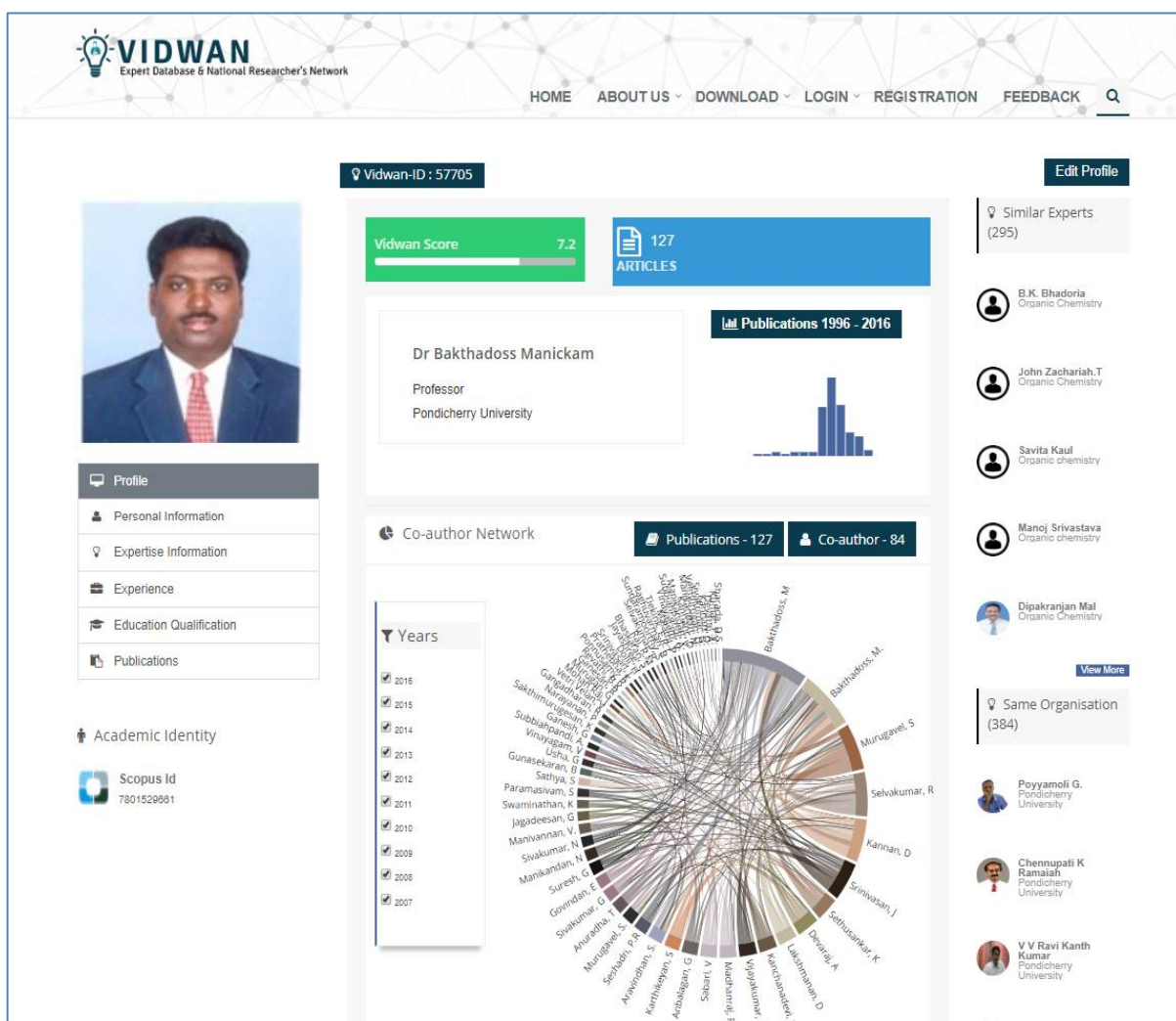


Fig.49: VIDWAN: Expert Profile with Co-author Network

8.1.1. Progress Made During the Year 2016-2017

During the period under report, all experts were communicated through email to update their respective profiles. About 2,000 new expert profiles were added into the database and existing profiles were updated with scholarly articles and academic identities, etc. Graphical visualization was added to the expert profiles to enhance the visibility such as Co-author Network with filter for years and cumulative citation from Scopus and Crossref. Admin interface was improved with the feature for profile import as CSV file. Fig. 50 depicts number of experts in eight Web of Science Subject Categories. Fig. 51 depicts number experts and their organization categories.

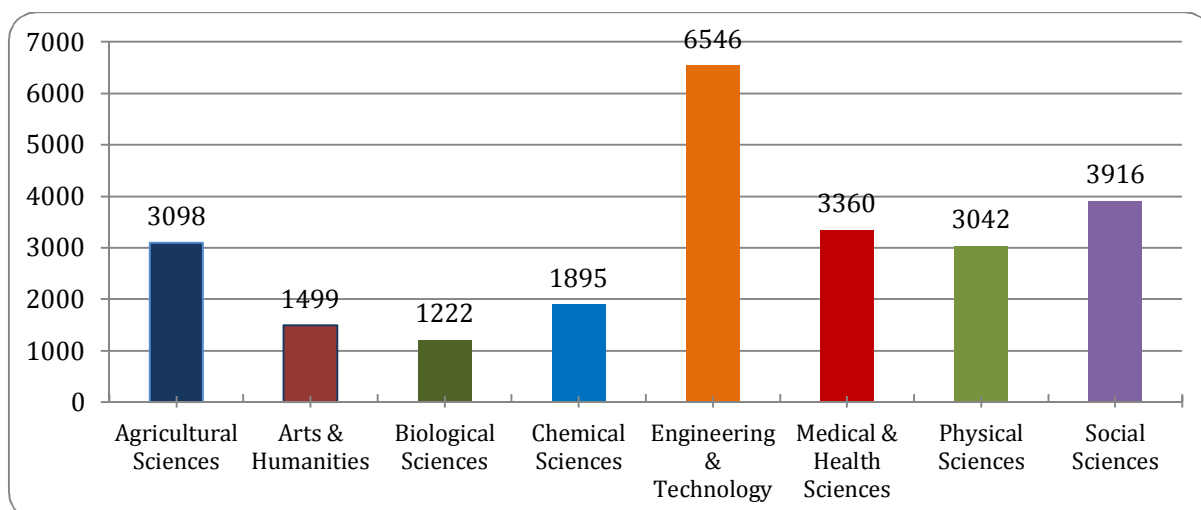


Fig. 50: Number of Experts Available in Vidwan Database under Web of Science Subject Categories

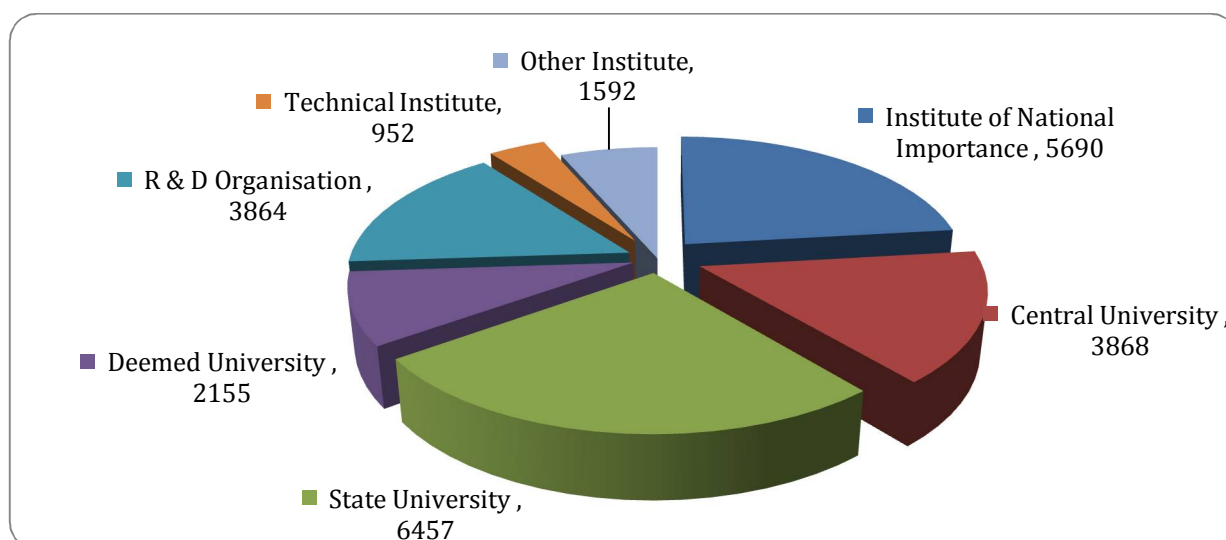


Fig. 51: Number Experts and their Organization Categories in VIDWAN Database

8.1.2. Features of New Interface of VIDWAN

The features and functionality of the web interface of Vidwan database were enhanced to enrich the user experience and to make the website accessible from different devices. The new interface supports the following features:

- » Responsive user-friendly interface to access the site from mobile, tablet as well as desktop;
- » Generation of automatic VIDWAN Score for the expert based on completion of the profile in different parameters such as area of expertise, academic identity, projects, experience, publication, honours & awards received and other academic contributions;
- » Import publications in a standard format (BibTeX);

- » Import project works, honours and awards from the pre-defined CSV files;
- » Import publications using academic identity such as ORCID, Microsoft Academic Search ID, Google Scholar ID, Researcher ID and Scopus ID;
- » Data indexed using Apache Solr for fast retrieval and access; and
- » API to harvest citation information from various external sources.

8.2. Indian Research Information Network System (IRINS) (<http://irins.org>)

Kannan P, Scientist C (LS)

Abhishek Kumar, Scientist-C (CS)

Hitesh Solanki, Scientist-B (CS)

Iliyas Mansuri, Project Associate (LS)

The Centre has developed VIDWAN: expert database. In continuous with the profiling (including research output) of experts and department of the institutes, the Centre has proposed “Indian Research Information Management (IRINS)” to MHRD. Currently, the Centre has developed platform for the same.

IRINS is web-based Research Information Management (RIM) service provided by the Centre to organize the research related information at the institute level. The portal facilitates the academic, R&D organizations and faculty members, scientists to collect, curate and showcase the scholarly communication activities and provide an opportunity to create the scholarly network. The IRINS is available as free software-as-service to the academic and R&D organizations in India. The IRINS supports integration of existing research repository with open and commercial citation databases, scholarly publishers, etc. It is integrated with academic identity such as ORCID ID, Scopus ID, Research ID, Microsoft Academic ID, Google Scholar ID for ingesting the scholarly contributions.



Fig. 52: IRINS Institute Home page with Research Productivity and Citation Graph

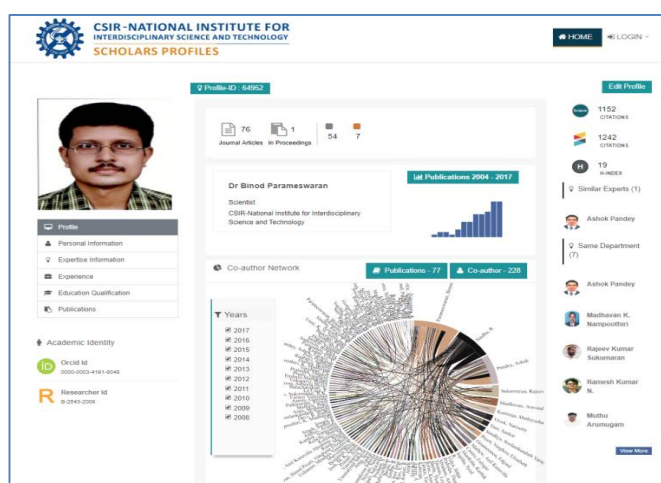


Fig. 53: IRINS Faculty Profiles with various Metrics

8.2.1. Key Features and Functionalities of IRINS

Key features and functionalities of IRINS are as follows:

- »» Graphical representation on research progress of departments and faculty members;
- »» Faceted search facility with many filters to find experts for the collaborative research project and project proposal review;
- »» Networking of faculty through co-author network, and discovery of scholarly article;
- »» Metrics from social media and citations from Scopus, CrossRef, h-index of faculty and department;
- »» BASE API to link the open access article and colour code to each article based on the publication venue such as closed access, green open access, brown open access and gold open access; and
- »» Harvest cumulative citation for whole institute, department, faculty members from Scopus and CrossRef.

8.2.2. IRINS: Early Adopters

The IRINS is being offered as “software-as-service” and instances were created and are being used by the following Institutes:

- »» Central University of Pondicherry (<http://pondiuni.irins.org>)
- »» Central University of Tamil Nadu (<http://cutn.irins.org>)
- »» Indian Institute of Science (<http://iisc.irins.org>)
- »» CSIR-National Institute for Interdisciplinary Science and Technology
- »» Central University of Punjab (<http://cup.irins.org>)
- »» CSIR-National Aerospace Laboratories (<http://nal.irins.org>)

9. Website Development and Maintenance

The Centre uses web technology to provide organized and structured access to its services and resources to the academic community through the Centre’s Website as well as through websites of its individual services and products. The Centre’s Website is designed to work as an integrated interface for all services and resources accessible to the academic community in the universities and colleges. The Web Development Team has especially been set-up for designing innovative web-based interfaces 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

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

Ashok Kumar Rai, Scientist D (CS)

The Centre maintains comprehensive Website in English and Hindi as shown in Fig. 54. Several new additions were made to the new version of the Institute's website. RSS (Real Simple Syndication) technology is used to facilitate users and bloggers to harvest recent updates from the Centre's website. Web 2.0 features and functionalities, including Wiki, Blog, Chat and Discussion Forum, RSS feed, etc. were incorporated in the Website. The new website of the Centre has the following main features:

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



Fig. 54: INFLIBNET's Website

9.2. Intranet (<http://172.16.16.11/intranet/>; for INFLIBNET Staff Only)

A separate Intranet website is maintained for the internal staff of the Centre as shown in Fig. 55. The website provides detailed information to scientists and staff of the Centre to fulfil their following requirement:

- » Rules and regulations of the Centre;
- » MoA;
- » All circulars;
- » All types of forms in fillable pdf format;
- » Committees and their constitutions;
- » List of holidays; and
- » Presentations on various activities and services of the Centre.

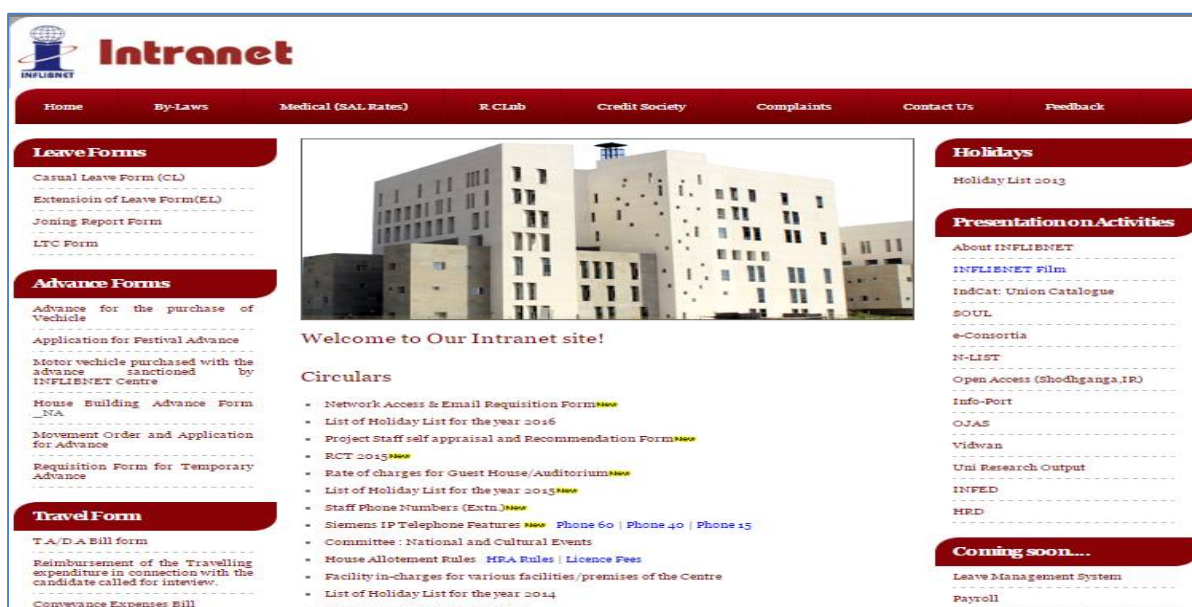


Fig. 55: INFLIBNET's INTRANET Website

9.3. Implementation of Web 2.0 Technologies at the Centre

The INFLIBNET Centre continued using Web 2.0 and Library 2.0 technology with implementation of interactive and collaborative technological tools. All the Web 2.0 tools used are open source software. Web 2.0/Library 2.0 technologies implemented at INFLIBNET Centre includes

- » Chat (<http://www.inflibnet.ac.in/chat/>);
- » Blogs (<http://www.inflibnet.ac.in/blog/>);
- » Wiki (<http://www.inflibnet.ac.in/wiki/>);
- » Streaming Media and Social Network (<http://in.youtube.com/inflibnet/>);
- » RSS Feeds Aggregation Service (<http://www.inflibnet.ac.in/feed/>); and
- » Library Toolbar.

10. Web Portals on Various Government Initiatives

10.1. Ek Bharat Shrestha Bharat (EBSB) / Unnat Bharat Abhiyan (UBA)

(www.ekbharat.gov.in)

Abhishek Kumar, Scientist-C (CS)

Dharmesh Shah, STA (CS)

The MHRD assigned the task for creation of web portal of “Ek Bharat Shrestha Bharat” to INFLIBNET Centre. “Ek Bharat Shrestha Bharat” is a web-portal which is sub-set of MHRD project called “Unnat Bharat Abhiyan”, being executed by IIT Delhi. EBSB is made for exchange of cultural events and activities among state of India.



Fig.56 Web Portal for Ek Bharart Shrestha Bharat (EBSB)

The scope of work assigned to the INFLIBNET Centre includes:

- » Development and maintenance of the EBSB portal;
- » Creation of photo galleries for various events and activities being organised by different States;
- » Receipt of contents from various states and its uploading on the EBSB portal on behalf of nodal officer of state;
- » Admin module to manage events and activities and related content of paired states;

-
- »» Creation of Youtube channel for video gallery;
 - »» Upload facility to all nodal officers of different states (not clear – Abhishek to clarify)

 - »» Hosting of EBSB portal on BAADAL server; and

 - »» Creation and maintenance of a of EBSB in Data Centre at INFLIBNET server.

The Centre also created an interface that facilitates receipt of online application from Institutes desirous of joining “Unnat Bharat Abhiyan” (UBA) and opting for villages. In addition, admin dashboard including score module was also created by the Centre.

10.2. Study in India (SII) (www.studyinindia.gov.in)

Jagdish Arora, Director
Abhishek Kumar, Scientist C
Hitesh Solanki, Scientist B
Divyakant Vaghela, Scientist B
Raja V, Scientist B
Dharmesh Shah, STA

The Centre was assigned the task of conceptualising, designing and developing web portal for “Study in India”. The project was assigned to the INFLIBNET Centre by Educational Consultants India (EdCIL) in consultation with Ministry of Human Resource Development (MHRD). The INFLIBNET Centre has executed the following module of “Study in India”:

- »» Aesthetically designed portal with intuitive web interface for Study in India (SII) duly populated with relevant information and web applications to support dynamic maintenance of portal, features to support data analytics, search and browse interfaces;

- »» Institutional Module consisting of online data capturing system to facilitate information flow from participating institutions, dashboard for nodal officers, statistics on counselling / admission; and

- »» Learner Module consisting of online registration of learners, courses offered including choice-based filtration, dashboard, etc.

The Centre is currently working on its Counselling Module which includes online mock counselling, final counselling and final admission matrix. Fig. 57 is screen shot of Web Portal for Study in India.

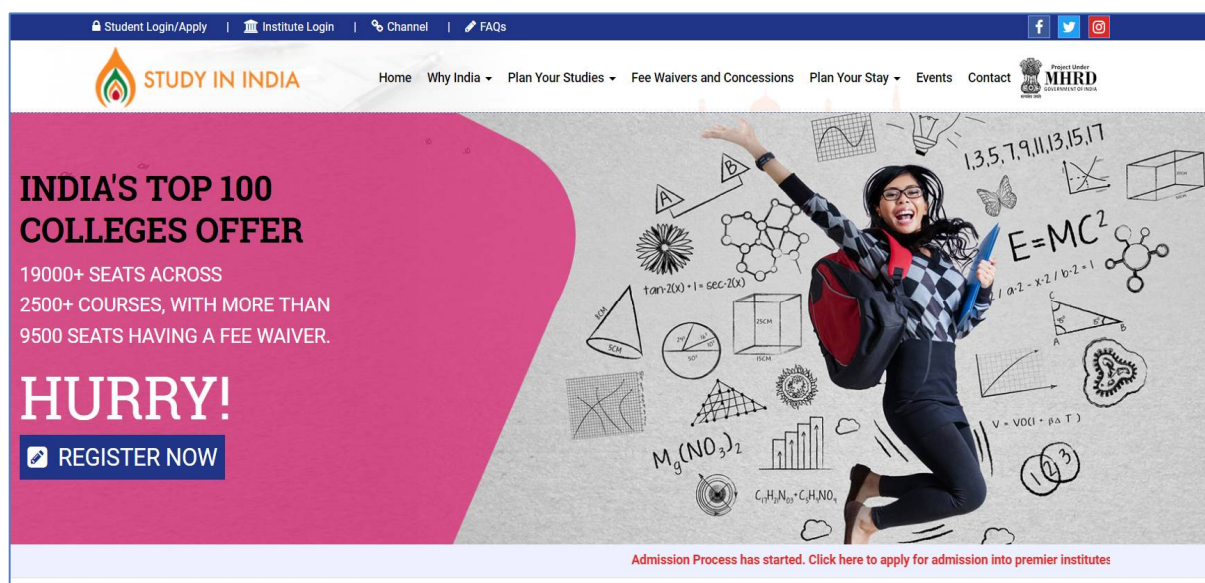


Fig.57: Web Portal of Study in India

11. UGC Web Site and e-Governance @ University Grants Commission

Sh Ashok Kumar Rai, Scientist-D (CS)

Sh Abhishek Kumar, Scientist-C (CS)

Sh Dharmesh Shah, STA-I (CS)

Ms Ankita Prajapati, Project Associate (CS)

Sh Krunal Shah, Project Associate (CS)

The University Grants Commission gave the responsibility for development and maintenance of website of the UGC as well as for automation of its various schemes, Grant Management System and e-Scholarship-Fellowship Award Registration Tracking System (e-SARTS). The Centre has created new website of the UGC. Fig. 58 is a screenshot of homepage of UGC website.

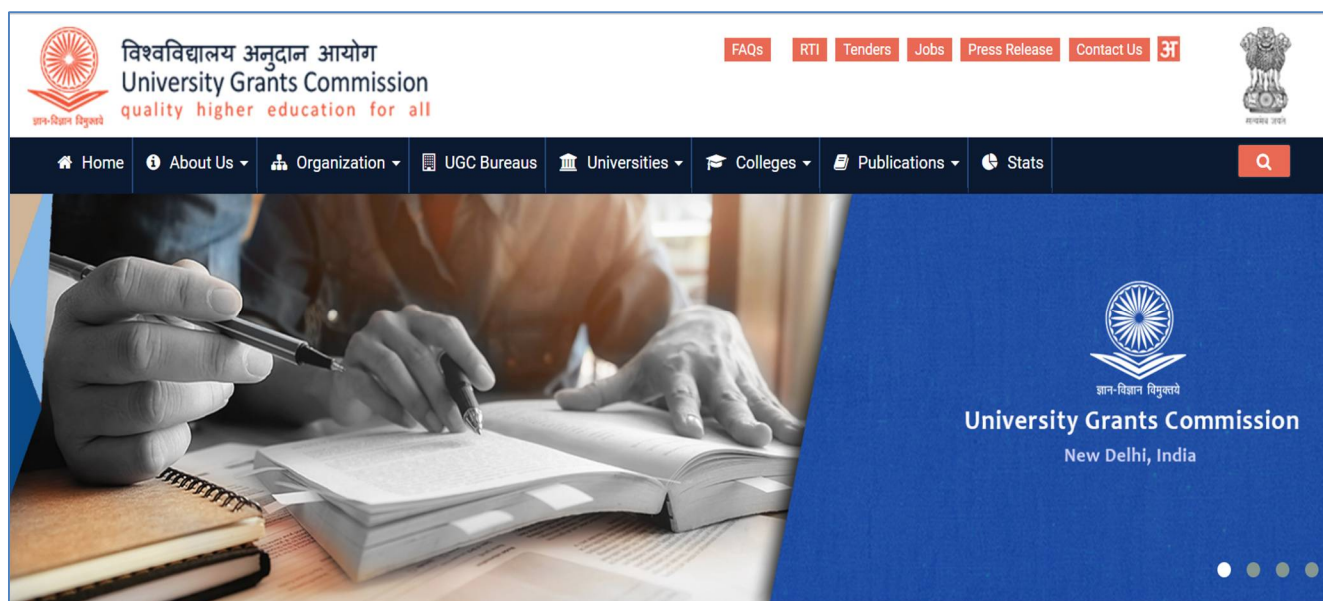


Fig.58: Homepage of UGC

The Web site of the UGC is being hosted on BSNL Hosting Facility in Ahmedabad and is being mirrored at the INFLIBNET Data Centre.

The Centre has also designed, developed and maintained online portals for automating more than 30 scholarships, fellowships and schemes for the UGC as given in Table 36.

Sl. No.	Name of Scheme Fellowship/ Scholarship
1	Maulana Azad National Fellowship for Minority Students
2	National Fellowship for Scheduled Caste Students
3	National Fellowship for Higher Education of Scheduled Tribe Students
4	Post Graduate Indira Gandhi Scholarship for Single Girl Child
5	Post Graduate Merit Scholarship for University Rank Holder
7	Post Doctoral Fellowship to SC/ST Candidates
8	Post Graduate Scholarship for Professional Courses for SC/ST Candidates
8	Post Doctoral Fellowship to Women Candidates
9	Emeritus Fellowship
10	National Fellowship for Persons with Disabilities
11	Dr. S. Radharkrishnan Post-Doctoral Fellowship in Humanities and Social Sciences
12	Special Assistance Programme (SAP)
13	Swami Vivekananda Single Girl Child Scholarship for Research in Social Sciences
14	"Ishan Uday" For North Eastern Region
15	National Fellowship for OBC Candidate
16	Minor Research Project For UGC Regional Office
17	Major Research Project (MRP)
18	Research Awards for the Teachers
19	Raman Fellowship for Post Doctoral Research for Indian Scholars in USA
20	Proposal for Deemed to be Universities and Proposals for establishing off-campus centre

Table 36: UGC Scholarship, Fellowships and Schemes Automated by INFLIBNET Centre

The Centre has also developed new e-Governance portals and online Interfaces for UGC for its schemes as shown below in Table 37 and Fig.59.

Sl. No.	e-Governance Activities @ UGC
1	Online Students Grievance Redressal Portal
2	Academic Jobs Portal for NET/SET/Ph.D.
3	Central University Portal (CUP)
4	UGC-approved List of Journals
5	Application for Recognition of HEI/ Programmes under Open and Distance learning mode (DEB)
6	Online Portal Inviting Proposal for New MOOCs Courses

Table 36: e-Governance Portals and Online Interfaces Developed by the INFLIBNET Centre for UGC

The screenshot displays the UGC e-Governance Portal with the following sections:

- Scholarship/Fellowships:** Includes links for Emeritus Fellowship, Post Doctoral Fellowship to Women Candidates, and Post Doctoral Fellowship to [dropdown]. A "View all" button is present.
- International Cooperation:** Includes links for List of Nominated Candidates for Commonwealth Medical Fellowships 2018 and Announcement of Scholarship. A "View all" button is present.
- e-Governance @UGC:** Includes links for Web Portal for Fellowship/Scholarship Legacy Cases and UGC NET Online. A "View all" button is present.
- Grievance & Anti-ragging:** Features a "No Ragging" banner with the 24x7 Helpline Number 1800-180-5522 (Toll Free) and a "Student Grievance" section.
- Event Gallery:** Contains an "Image Gallery" with a photo of a speaker and a "Video Gallery" with a video player showing a Swayam session.
- Digital Initiatives:** Displays logos for Swayam, Swayam Prabha, e-PG Pathshala, NAD (National Academic Depository), AISHE (All India Survey on Higher Education), and RO (UGC Regional Offices).
- For UGC Officials:** Lists links for e-Office, NIC mail, RTI online, PG portal, Professional Councils, State Higher Education Councils, MHRD, AICTE, Scholarships and Fellowships, Web portal for Fellowship/Scholarship Legacy Cases, e-SARTS, e-Schemes, Syllabi for Choice Based Credit System (CBCS), University Activity Monitoring Portal, DEB, Skill Development, UGC NET Online, UGC Regulation, and Telephone Directory.
- Quicks Links:** (Overlapped by the For UGC Officials section).
- Contact us:** Provides the address of the University Grants Commission (UGC) at Bahadur Shah Zafar Marg, New Delhi - 110002, contact numbers (011-23604446, 011-23604200), and email (webmaster.ugc.help@gmail.com). A "More" button is also present.
- Footer:** Includes logos for India.gov.in, myGov, MyVisit, Digital India, data.gov.in, Online Services for VOTERS, digi.gov, Web Information manager, and a copyright notice for 2017 University Grants Commission New Delhi, India. It also shows "Total Visitors: 71887066" and links for Feedback, Webmaster, Disclaimer, and Contact.

Fig. 59: e-Governance Portals and Online Interfaces Developed by the INFLIBNET Centre for UGC

12. Human Resource Development & Consultancy

H G Hosamani, Scientist C (LS)

Hema Cholin, STO (LS)

Shrimali Vijaykumar, STA (CS)

All Technical Staff Members

One of the important objectives of the Centre is to impart training in the use of ICT to library and information science professionals working in university and college libraries. Since the inception of the Centre in 1991, 762 programmes include annual conventions, training programmes, workshops and seminars focusing on the library automation, networking, e-resource awareness, theses repositories, institutional repositories, etc. have been conducted by the Centre benefiting 59,679 participants. INFLIBNET Regional Training Programmes for Library Automation (IRTPLA) and User Awareness Programmes on e-resources, Shodhganga and plagiarism detection software were conducted across the country in collaboration with the universities and colleges. National and International Conventions called PLANNER in North-eastern regions and International CALIBER in various states of India are being organized bi-annually as part of the human resource development activities. The Centre has also conducted a total no. of 139 Training Programmes on SOUL Installation and Operations for Libraries so far. Brief reports on every training programme organized during the period under report are given in Part III: National Conference, Workshops, Seminars and Training Programmes of this report. Table 38 given below provides no. of human resources development programmes conducted across the country and no. of participants who benefitted from these programmes during the year under report.

Sl. No.	Name of the Programme	Programmes	Total Participants
1	IRTPLA (INFLIBNET Regional Training Programme on Library Automation)	2	85
2	Onsite / In House Training Programme on SOUL 2.0	2	44
3	Special Training Programme and National Workshops at INFLIBNET	16	249
4	Collaborative Special Training Programme and National Workshops	7	214
5	CALIBER	1	260
6	Training Programme on SOUL 2.0	8	94
7	Shodhganga Awareness Programme/Anti Plagiarism	1	180
8	E-Content Development / Meeting /Workshop under e-PG Pathshala	1	
9	National Conference on ETD	1	50
10	The Higher Education Forum 2017	1	70
11	Orientation Workshop for SWAYAM (MOOCs) Coordinators of Universities	1	150
	Total	41	1396

Table 38: Conferences, Training Programmes, Workshops and Seminars conducted by INFLIBNET Centre during 2017-18

13. Publications

The INFLIBNET Centre has two major publications i.e. Quarterly Newsletter and Annual Report. Both publications were brought out and distributed across all academic institutions in India. The copies of the Newsletters and Annual Reports are downloadable in PDF format and the "Publications" on INFLIBNET website at <http://www.inflibnet.ac.in/publication/>. The copies of Annual Reports, PLANNER and CALIBER proceedings are also available through the Institutional Repository (IR) in PDF format. The course materials of various training programmes and workshops, lecture notes, presentations and newspaper clippings are also available in the IR of the Centre at <http://ir.inflibnet.ac.in>. List of Publications including articles, published conference proceedings, user guides and manuals published by scientists and staff of the Centre is given as below:

13.1. Conference Proceedings in Print

- i) Arora, Jagdish et al (eds.). Re-Envisioning Role of Libraries: Transforming Scholarly Communication: Proceedings of the 11th CALIBER 2017 organised by INFLIBNET Centre, Gandhinagar, August 2-4, 2017. Gandhinagar: INFLIBNET Centre, 2017. 577 p.

13.2. Papers Published in Journals, Newsletters and Conference Proceedings

- i) Patel, Yatrik and Raja V. Access to e-resources for Indian Higher Education System and the Role of INFED (INFLIBNET Access Management Federation). INFLIBNET Newsletter, 24(2), p. 14-20, 2017.
- ii) Kumar, Abhishek. Swayam-Prabha: Free DTH channel and open access content for education. INFLIBNET Newsletter, 24(3&4), p. 36-40, 2017
- iii) Kumar, Abhishek. Study in India: A Gateway to Learn in India. INFLIBNET Newsletter, 25(1), p., 2017
- iv) P Kannan and Tiwari, Sanjay Kumar. VIVO: Faculty research information system and discovery. In: Re-Envisioning Role of Libraries: Transforming Scholarly Communication: Proceedings of the 11th CALIBER 2017 organised by INFLIBNET Centre, Gandhinagar, August 2-4, 2017. (eds. Jagdish Arora [et.al.]). Gandhinagar: INFLIBNET Centre, p. 230-235, 2017.
- v) Siddiqui, Suboohi, K, Manoj Kumar and Walia P K. Research paradigms in social sciences: A case study of Shodhganga. In: Re-Envisioning Role of Libraries: Transforming Scholarly Communication: Proceedings of the 11th CALIBER 2017 organised by INFLIBNET Centre, Gandhinagar, August 2-4, 2017. (eds. Jagdish Arora [et.al.]). Gandhinagar: INFLIBNET Centre, p. 292-303, 2017.

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- vi) Pradhan, Pallab. Scholarly research articles published from Anna University, Tamil Nadu during 2011-2016: an altmetrics evaluation. In: Re-Envisioning Role of Libraries: Transforming Scholarly Communication: Proceedings of the 11th CALIBER 2017 organised by INFLIBNET Centre, Gandhinagar, August 2-4, 2017. (eds. Jagdish Arora [et.al.]). Gandhinagar: INFLIBNET Centre, p. 314-303, 2017.
 - vii) Pandya, M. (2017). Managing References Using Zotero. Pearl: A Journal of Library and Information Science, 11(4), 373.
<https://doi.org/10.5958/0975-6922.2017.00048.1>
 - viii) Pandya, M. Time Series Analysis of Research Output of Social Sciences in India During 2005-2014. Library Herald, 55(4), 605-615, 2017.
<http://doi.org/10.5958/0976-2469.2017.00045.8>
 - ix) Arora J., Pradhan P., Patel Y., Pandya M., Solanki H., Vaghela D. (2018) ICSSR Data Service: A National Initiative for Sharing of Social Science Research Data. In: Munshi U., Verma N. (eds) Data Science Landscape. Studies in Big Data, vol 38. Springer, Singapore

14. Awards, Honours and Distinctions

Dr. Jagdish Arora, Director

Dr. Jagdish Arora was presented a Citation and Memento for his Commendable Contribution to Digital Initiatives for Higher Education, by the Honourable Shri Pranab Mukherjee, the then President of India, during the National Convention on Digital Initiatives, organized by the Ministry of Human Resource and Development, Govt. of India on 9th July 2017 at Vigyan Bhawan, New Delhi. He was also recipient of Librarian's Choice Award for Life Time Achievement instituted by the Royal Society of Chemistry for the year 2017 in recognition of Individual Contribution towards Library and Library Science Community of India. He was awarded NDLTD Leadership Award for the year 2017 for Shodhganga Scheme of the INFLIBNET Centre during 20th International Symposium on Electronic Theses and Dissertations held in Washington, D.C., USA from August 7 to 9, 2017.

Dr. Arora was nominated as a Member of the Advisory Board, National Library, Kolkata from 2018 onwards for a period of three years. He was nominated as Chairman of the Expert Committee, Ministry of Earth Science Consortium, New Delhi. He chaired the 3rd Meeting of the Library Advisory Board of Royal Society of Chemistry (RSC), held on 27th July, 2017 at Jaipur, Rajasthan.

Dr, Arora continued to serve as a i) member of the Implementation Core Committee, India Rankings 2017 and 2018 (NIRF) appointed by the Ministry of Human Resource Development, New Delhi; ii) member of the Standing Committee on Notification on Journals, appointed by the University Grants Commission, New Delhi; iii) member of the Standing Committee and its Sub-Committee on e-Content Production (e-PG Pathshala), appointed by the University Grants Commission, New Delhi; and iv) member of the Programme Review and Steering Group (PRSG) of the National Digital Library, a project funded by the NME-ICT (MHRD), appointed by the Ministry of Human Resource Development.

Dr. Arora delivered the following inaugural, keynote or invited talks during the period under report:

- i) Invited presentation on INFLIBNET Centre's Activities and Services to the Secretary (HE), MHRD, Shastri Bhawan, New Delhi on 22nd May, 2017.
- ii) Chief Guest and Keynote Speaker on "Open Access Initiatives at the INFLIBNET Centre", during the "National Workshop on Strengthening Open Access (OA) Initiative in India" held on 23rd June 2017 at NBRC, Manesar, Gurgaon.
- iii) Invited talk on "Vidwan: Expert Database and National Researcher's Network", delivered during "National Convention on Digital initiatives at Vigyan Bhawan, New Delhi , 8th to 10th July, 2017.
- iv) Invited talk on "e-Shodh Sindhu: Consortium for Higher Education e-Resources", delivered during "National Convention on Digital initiatives at Vigyan Bhawan, New Delhi , 8th to 10th July, 2017.
- v) Invited talk on "e-Vidya-mitra: Integrated e-Content Portal", delivered during "National Convention on Digital initiatives at Vigyan Bhawan, New Delhi , 8th to 10th July, 2017.
- vi) Invited talk on "e-Learning in Higher Education, during "Third Librarian Appreciation Day", organized by the Royal Society of Chemistry at Jaipur, 28th July, 2017.
- vii) Keynote address on "INFLIBNET Centre: Activities and Services", during the Librarian's Day Celebration at the Central Library at IIT Bombay, 21st August, 2017.
- viii) Invited talk on "INFLIBNET Centre's Activities, Services, Infrastructure and Impact" during the "National Workshop on Developing a Roadmap for Agricultural Knowledge Management in India", at NASC, Pusa Campus, New Delhi , 27th -28th September, 2017.
- ix) Invited talk on "Impact of INFLIBNET Services on Research and Teaching at Indian Universities" during Shodh Siksha Sameeksha (SSS) at IUCAA, Pune, 1st October, 2017.
- x) Invited talk on "Use of e-Resources in Public Libraries to Reach the Unreached: Consortia Approach" during India Public Libraries Conference (IPLC) 2017, India Habitat Centre, New Delhi, 3rd to 5th October, 2017.
- xi) Invited talk on "Transforming Libraries in 21st Century", GAIL Annual Library Meet, Gas Authority of India, Noida, 6th November, 2017.
- xii) Keynote address on "Transforming libraries in 21st Century", during "National Conference on Role of Academic Libraries for Excellence in Research (ROALER), 18 – 20 January, 2018, IISER, Bhopal.
- xiii) Invited talk on "Plagiarism Detection: Products, Services and Technologies", delivered during Library Technology Conclave 2018, Goa University, Goa, 23-24th January, 2018.

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- xiv) Invited talk on "Sharing Experience of Offering Course on SWAYAM: Life Cycle of MOOC Course", during Orientation Workshop on the Roles and Responsibilities of the University and its SWAYAM Coordinators, AICTE, New Delhi, 2nd February, 2018.

Dr. Arora served at a panellist or as a moderator for panel discussions during various National and International conferences:

- i) Panellist for the Panel Discussion on "Strengthening Public Library Ecosystem in India" during India Public Libraries Conference (IPLC) 2017, India Habitat Centre, New Delhi, 3rd to 5th October, 2017.
- ii) Moderated Panel Discussions on "Academic and Research Libraries: Vision 2022" during International Conference on Knowledge Organization, Library & Information Management, IIT Madras, Chennai, 23rd to 25th October 2017.
- iii) Moderated Panel Discussions on "Academic Search Engines, Discovery Tools and Publishers – Collaboration or Competition during UNESCO-NDL India" during International Workshop on "Knowledge Engineering for Digital Library Design", UNESCO House, New Delhi, held during 25th to 27th October, 2017.
- iv) Panellist for the Panel Discussions on Emerging Technologies in Libraries and Information Services and Chief Guest for ETTLLIS-2018: Emerging Trends and Technologies in Libraries and Information Services held from February 21 to 23, 2018 at Bennett University, Greater Noida.

Manoj Kumar K., Scientist D (CS)

Mr. Manoj Kumar K. was awarded NDLTLD Leadership Award for the year 2017 for Shodhganga Scheme of the INFLIBNET Centre during 20th International Symposium on Electronic Theses and Dissertations held in Washington, D.C., USA from August 7 to 9, 2017. He served as faculty to the following workshops / training programmes and delivered invited lectures / keynote addresses:

- i) "Shodhganga & URKUND: a Plagiarism Detection Software" invited lecture during U.G.C sponsored Refresher Course & Orientation Programme for the Professional Development of University and College Teachers, Human Resource Development Centre, Gujarat University, Ahmedabad, 2nd June 2017.
- ii) "Shodhganga & Shodhgangotri", invited lecture and signing a Memorandum of Understanding (MoU) for Shodhganga, Parul University, Odhav, Ahmedabad, 24th May 2017.
- iii) "Shodhganga & URKUND: A Plagiarism Detection Tool", invited lecture at Laxmi Memorial College of Nursing, Mangalore, 31st July 2017.
- iv) "Research Ethics, Reference Management Tools", invited lecture, Human Resource Development Centre, Gujarat University, Ahmedabad, 1st November, 2017.

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- v) "Digitisation of Library Resources / Budgetary Process and Strategies for Effective E-Resource Mobilisation", invited lecture during four-day Higher Education Leadership Programme, Central University of Haryana, Pali, Haryana, 5th to 8th December, 2017.
 - vi) "e-Leaning and Academic Resources of INFLIBNET Centre", presentation to the faculty members during Faculty Development Programme, GLS Centre for Research and Development, GLS University, Ahmedabad, 16th December 2017.
 - vii) "Cloud Networking", invited lecture during National Workshop on "Emerging Trends in Information Technology in University Management", Central University of Gujarat, Gandhinagar, 19th to 21st December, 2017.
 - viii) "Challenges and way forward in access and availability: public libraries in the age of digital content & services", invited lecture during State Public Library Conference 2018 at Maulana Azad National Urdu University, Hyderabad on 19th January, 2018.
 - ix) "UGC Policy guideline during PhD orientation Programme", invited lecture at Manav Rachna University, Faridabad on 20th January, 2018.
 - x) "Workshop on Plagiarism", felicitated by Kerala Library Association organised by Kerala Library Association and University of Kerala Thiruvananthapuram at DLIS, University of Kerala, Thiruvananthapuram, 3rd February, 2018.
 - xi) "UGC Policy on Plagiarism and issues relating to Academic Integrity", invited lecture during Awareness Programme on Academic Integrity and Prevention of Plagiarism at The Maharaja Sayajirao University of Baroda, Vadodara on 23rd February, 2018.
 - xii) "Shodhganga & literature review and anti-plagiarism tools & policies", invited lecture UGC sponsored Ph.D Course Work in Language at UGC-HRDC Gujarat University on 28th February, 2018.

Mr. Abhishek Kumar, Scientist C (CS)

Shri Abhishek Kumar was presented a Citation and Memento for his Commendable Contribution to Digital Initiatives for Higher Education, by the Honourable Shri Pranab Mukherjee, the then President of India, during the National Convention on Digital Initiatives, organized by the Ministry of Human Resource and Development, Govt. of India on 9th July 2017 at Vigyan Bhawan, New Delhi.

He was a Special invitee to the Meeting of Core Working Group (CWG) for set-up for Revision of Accreditation Framework of NAAC held at the National Assessment and Accreditation Council, Bangalore on 23rd April 2017 and 9th to 10th June, 2017. He was a special invitee to all the Meetings of Standing Committee on Development of e-Content for PG Courses (e-PG Pathshala) and its Sub-committee set-up by the UGC, New Delhi during the year under report. He was also special invitee to all the Meetings of Implementation Core Committee set-up by the Ministry of Human Resource

Development for India Rankings 2018 (NIRF) as well as for all other meetings related to India Rankings 2018. He was also invited to attend all the meetings organized for automating all functions of Central Universities through Web Portal developed by INFLIBNET at UGC / MHRD, New Delhi as well as to the meetings held for e-governance of UGC. Subsequently, he was invited to demonstrate Central University Portal developed by the INFLIBNET Centre for UGC / MHRD to the users in Jamia Millia Islamia, New Delhi on 6th September, 2017. Mr. Abhishek Kumar was invited to attend meeting to discuss e-NBA Accreditation Workflow System at National Board of Accreditation, New Delhi on 12th October, 2017 and 29th November, 2017.

Mr. Abhishek Kumar served as faculty for the following workshops / training programmes and delivered invited lectures at:

- i) Invited talk on MOOC in HRDC at the University of Hyderabad on 30th June, 2017.
- ii) Invited talk on e-learning at UGC-Human Resource Development Centre, University of Hyderabad, Hyderabad, 1st July, 2017.
- iii) Invited speaker on Content Management Systems and Joomla for MLISc Students at Central University of Gujarat, Gandhinagar, 10th, 18th and 20th November, 2017.
- iv) Invited talk on India Rankings at Central University of Gujarat, Gandhinagar, 20th December, 2017.
- v) Invited talk on "NIRF & University Ranking" during the National Workshop on Emerging Trends in Information Technology in University Management, Central University of Gujarat, Gandhinagar, 19th to 21st December, 2017.
- vi) Invited presentation to MHRD Official and CMD of EDCIL on INFLIBNET Activities and Services, and on developing web-portal for "Study in India", an initiative of MHRD for foreign students, 11th January, 2018 through video conference.
- vii) Invited lecture on MOOCs during Three-day Training Programme on Massive Open Online Courses (MOOCs) at Teachers Learning Centre, Central University of Rajasthan, Ajmer, 12th March, 2018.

Mr. Kannan P. Scientist C (LS)

Mr. Kannan made an invited presentation on "Indian Research Information Network System: An Overview" during 3rd Global Conference on Emerging Trends in Business Librarianship jointly organized by IIM Ahmedabad and Indian School of Business, IIM Ahmedabad, 21st to 22nd November, 2017.

Ms. Kruti Trivedi, Scientist B (LS)

Dr. Kruti Trivedi was invited to deliver lectures on Assessing and evaluating research performance using bibliometrics indicators in Library Development Programme at Symbiosis International (Deemed University) Lavale during February 29- March 1, 2018.

Mr. Divyakant Vaghela, Scientist B (CS)

Mr. Divyakant was invited as a resource person to deliver three sessions on "INFLIBNET Activities and Services", "Open Research Data Management", and "ICSSR Data Service: Indian Social Science Data Repository", during the programme Open Educational Resources in Higher Education (OERHE) under the MHRD Scheme of Pandit Madan Mohan Malviya National Mission on Teachers and Teaching Programme at Faculty Development Centre (FDC), Hemvati Nandan Bahuguna Garhwal University, Srinagar from 6th to 7th September, 2017. He was invited to deliver lectures on ICSSR Data Service during the following ICSSR- sponsored training programmes and workshops:

- i) Two-Week Capacity Building Programme (CBP) for Faculty of Social Sciences, Council for Social Development, Hyderabad, 10-23 May, 2018.
- ii) Ten-Day Research Methodology Programme for Ph.D. Student in Social Sciences, OKD Institute of Social Change and Development, Guwahati, 12-21 May, 2017 (through Google Hangout from INFLIBNET Centre on 18th May 2017).
- iii) Two-Week Capacity Building Programme for Faculties in Social Sciences, Giri Institute of Development Studies (GIDS), Lucknow, 22nd May 2017 to 4th June 2017.
- iv) Capacity Building Programme for Social Science Faculty, Central University of Punjab, Bathinda, 1-14 June, 2017
- v) Research Methodology Workshop, Veer Narmad South Gujarat University, Surat, 12-21 June, 2017.
- vi) Ten-days Workshop on Research Methodology in Sociology, Institute of Indian Culture, Mumbai, 20-29 November, 2017.
- vii) Capacity Building Workshop on Research Methodology, IGNOU Regional Centre, Panaji, Goa, 8-21 January 2018.
- viii) Capacity Building Programme for Social Science Faculty, Department of Economics, University of Lucknow, Lucknow, 12-23 February, 2018.
- ix) Research Methodology in Social Sciences, Department of Geography, University of Lucknow, 12-21 March, 2018.

Dr. Miteshkumar Pandya, Scientist B (LS)

Dr. Pandya was a resource person during Research Orientation Programme at Institute of Management, Nirma University, Ahmedabad, 5th to 10th June, 2017. He delivered an invited lecture on Reference Management Tools during Workshop organized for Research Scholars at Mudra Institute of Communication (MICA), Ahmedabad on 8th November, 2017. He delivered invited lectures on Digital Library Architecture, OAI-PMH, Open URL Open Source Digital Library Software during PGDLIM Course at School of Library and Information Science, Central University of Gujarat, Gandhinagar, from 1st to 10th February, 2018. Dr. Pandya delivered invited lecture on Content Management System: Joomla & Drupal during one-day Seminar on Library Revolution: Reengineering Libraries for Next –Gen organised, by Smt. Kapila Khandvala College of Education, Mumbai, 22nd March, 2018.

Dr. Miteshkumar Pandya was also invited as a Guest faculty at School of Library and Information Science, Central University of Gujarat, Gandhinagar for the academic session 2017-18 and taught paper entitled Library Automation: Theory and Practice to the Master of Library and Information Science Students.

Dr. Miteshkumar was invited to deliver lectures on Open Research Data Management and ICSSR Data Service during the following ICSSR-sponsored training programmes and Workshop:

- i) Ten Days Capacity Building Programme for Social Science Faculty Members, Department of Geography, Utkal University, Bhubaneswar, 01st to 10th May, 2017.
- ii) Research Methodology Course for Ph.D. Scholars in Social Science, Department of Public Policy, Law and Governance, Central University of Rajasthan, 8th to 17th May, 2017.
- iii) Research Methodology Course for Ph.D. Scholars in Social Science, Nagaland University, Kohima, 16th to 25th May, 2017.
- iv) Research Methodology Course and Research Techniques using SPSS in Social Sciences, Department of Economics, Nagaland University, Lumami, 23rd May to 1st June, 2017;
- v) Two-Week Capacity Building Programme for Social Science Faculty Members, Department of Management, Mizoram University, 22nd May to 3rd June, 2017.
- vi) Ten-day Capacity Building Programme for Social Science Faculty, Omeo Kumar Das Institute of Social Change and Development, Guwahati, 04-17 July, 2017.
- vii) Ten Days Capacity Building Programme of ICSSR, Institute of Public Enterprises, Hyderabad, November 06-17, 2017.
- viii) Ten Days Capacity Building Programme of ICSSR, Indira Gandhi National Tribal University-RCM, Manipur, 23rd to 24th November, 2017.

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- ix) Ten Days Capacity Building Programme for Social Science Faculty, Sardar Patel Institute of Economic and Social Research (SPIESR), Ahmedabad, 19 -28 March, 2018.

Mr. Hitesh Solanki, Scientist B (CS)

Mr. Hitesh Solanki was a Special invitee to the Meeting of Core Working Group (CWG) for set-up for Revision of Accreditation Framework of NAAC held at the National Assessment and Accreditation Council, Bangalore on 23rd April 2017 and 8th to 9th June, 2017. He attended the Meeting of India Rankings 2018 (NIRF) held at INFLIBNET Centre, Gandhinagar on 19th June, 2017. He was invited to attend Meeting of India Rankings 2018 (NIRF) held at Ministry of Human Resource Development, New Delhi on 29th June, 2017.

Mr. Solanki delivered invited lectures as a resource person for the following workshops / training programmes:

- i) Invited lectures on Shodhganga and URKUND; e-Learning: Content Creation & Development; and National Projects on e-Learning during "Open Educational Resources in Higher Education (OERHE) under the MHRD Scheme of Pandit Madan Mohan Malviya National Mission on Teachers and Teaching Programme at Faculty Development Centre (FDC), Hemvati Nandan Bahuguna Garhwal University, Srinagar, 6th - 7th September, 2017.
- ii) Invited Lectures on Network based Information System, Virtualization Basics and AWS Educat (Amazon cloud server) during Two-days Workshop on Cloud Computing, University Computer Centre & Institute of Engineering and Technology, Dr. Bhim Rao Ambedkar University, Agra, 27th - 28th November 2017.
- iii) Hands-on session on t-tests, ANOVA and ANCOVA using R Studio during Short-Term Training Programme on Statistical Analysis for Scientific & Technical Research & Applications (SASTRA), B. V. M. Engineering College, Vallabh Vidyanagar, 19th-24th February, 2018.

He was also invited to deliver lectures on ICSSR Data Service during the following ICSSR-sponsored training programmes and Workshop:

- i) Capacity Building Programme on Academic Writing Workshop for Faculty Members in Social Sciences, Centre for Asian Studies, Savitribai Phule Pune University, Pune, 3rd to 13th May, 2017.
- ii) Capacity Building Programme at Developing Countries Research Centre (DCRC), University of Delhi, Delhi, 16th to 29th May, 2017.
- iii) Ten-Day Workshop on Research Methodology and SPSS Usage in Data Analysis in Social Sciences, HNB Garhwal University, Srinagar, 18th to 27th May, 2017.

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- iv) Ten-Day Workshop on Research Methodology in Quantitative Research for Ph.D. Scholars in Social Sciences, Department of Social Work, University of Delhi, Delhi 29th May to 7th June, 2017.
 - v) Ten-Day Research Methodology Programme for PhD Student in Social Sciences, OKD Institute of Social Change and Development, Guwahati, 12th to 21st May, 2017.
 - vi) Ten-Day Research Methodology Course for PhD Student, Department of Anthropology, West Bengal State University, Kolkata, 4th - 13th December, 2017.
 - vii) Faculty Development Programme for Faculty in Social Science, Department of Political Science & Public Administration, Dr. Shakuntala Misra National Rehabilitation University, Lucknow, 04th to 17th October, 2017.
 - viii) Ten-day Research Methodology Workshop on Qualitative Research Methods: Theory, Method and Analysis for M.Phil. and Ph.D. Scholars, Ambedkar University, Delhi, 20th February to 01st March, 2018.

Mr. Pallab Pradhan, Scientist B (LS)

He was invited to deliver lectures on ICSSR Data Service during the following ICSSR-sponsored training programmes and workshops:

- i) Capacity Building Programme on Enhancement of Capacities of Researchers in Social Science Research Areas: An Attempt for Transformation in Research Attitudes and Aptitudes, North Eastern Hill University, Tura, 5th - 18th May, 2017.
- ii) Capacity Building Programme on Research Methodology for Social Science Faculty Members, Central University of Jammu, Jammu, 8th - 28th May, 2017.
- iii) Ten-Day Workshop on Research Methodology for Ph.D. Students in Social Sciences, Sikkim University, Gangtok, 23rd - 2nd June, 2017.
- iv) Research Methodology Course for Ph.D. Students in Social Sciences, Nabakrushna Choudhury Centre for Development Studies (NCDS), Bhubaneswar, 1st May - 10th June, 2017.
- v) Training Course on Research Methodology in Social Sciences, M.P. Institute of Social Science Research (MPISSR), Ujjain, 13th - 22nd June, 2017.
- vi) Ten-day Research Methodology Course for the Ph.D. Scholars, P.G. Department of Statistics, Utkal University, Bhubaneswar, 24th July - 2nd August, 2017.
- vii) Ten-day National Workshop on Research Methodology in Social Sciences at Department of Psychology, Chaudhary Charan Singh University, Meerut, 8th - 17th December, 2017.

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- viii) Ten-day National Workshop on Research Methodology in Social Sciences for Ph.D. Students, North-East Centre of the Indian Statistical Institute (ISI), Tezpur, 15th - 25th January, 2018.
- ix) Two-week Capacity Building Programme for Faculty Members in Social Sciences (CB 2018), Indian Institute of Technology Guwahati (IITG), Guwahati, Assam, 7th - 18th March, 2018.

Mr. Raja V., Scientist B (CS)

Mr. Raja was invited to make a presentation on INFLIBNET Access Management Federation (INFED) at Indian Institute of Technology, Gandhinagar and Indian Institute of Management, Ahmedabad on 10th June, 2017 and 29th June, 2017, respectively. Mr. Raja was invited to make a presentation on Innovative Information Services -Anywhere Anytime Access of e-Resources - INFED during 3rd Global Conference on Emerging Trends in Business Librarianship, jointly organized by IIM Ahmedabad and Indian School of Business at IIM Ahmedabad, 21st - 22nd November, 2017. He was also invited to conduct sessions on "Introduction to Cloud Computing, Overview of VMs and Hands-on practice", "Web Server Installation and Deployment", and "Launching Web Application on Cloud" during Two-days Workshop on Cloud Computing, University Computer Centre & Institute of Engineering and Technology, Dr. Bhim Rao Ambedkar University, Agra, 27th - 28th November 2017. He attended the Expert Review Committee meeting at AICTE, New Delhi on 12th December, 2017 for reviewing their Cloud and Data Centre related projects.

Mr. Kimidi. Siva Shankar, Scientist B (LS)

Mr. K Siva Shankar was invited as resource person for "Faculty Development Programme on MOOCs" on 14th March, 2018 at Indira Gandhi National Tribal University (IGNTU), Amarkantak, Madhya Pradesh.

Ms. Suboohi Siddiqui, STO (LS)

Ms. Suboohi was invited to deliver a lecture on Urkund: A Plagiarism Detection Tool, M S University, Baroda, 20th September, 2017.

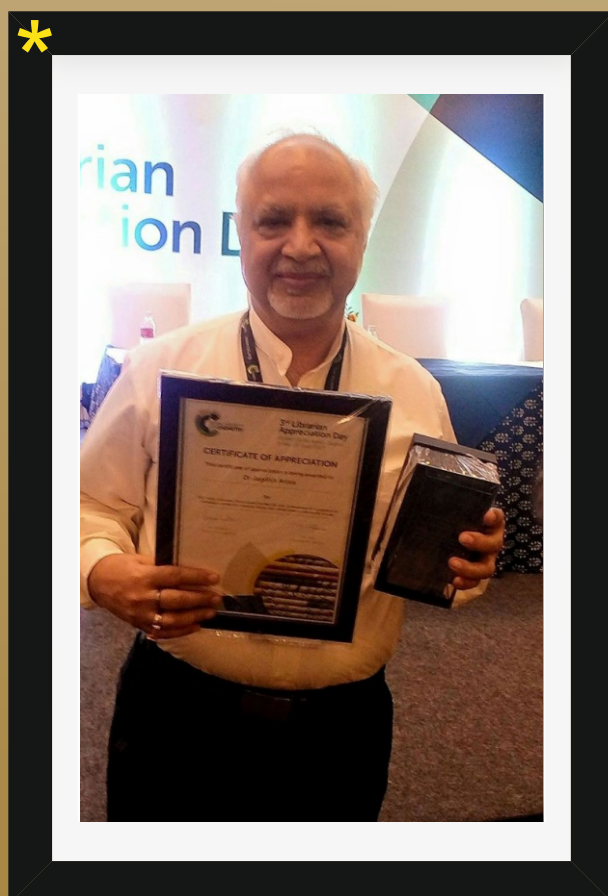
Mr. Dharmesh Shah, STA (CS)

Mr. Dharmesh was a Special invitee to the Meeting of Core Working Group (CWG) for set-up for Revision of Accreditation Framework of NAAC held at the National Assessment and Accreditation Council, Bangalore on 23rd April 2017 and 8th to 9th June, 2017. He also provided technical guidance in creation of various modules of Online Portal for IQA (Registration) and QIF (Data Capturing System) for SSR of National Assessment and Accreditation Council (NAAC) at National Assessment and Accreditation Council, Bangalore from 3rd to 15th July, 2017, 8th to 12th August, 2017 and 22nd August to 02nd September, 2017, respectively.

Director and Scientist brought Laurels to the Centre...



Shri Pranab Mukherjee, the then President of India, presented Citations and Mementos to Dr. Jagdish Arora, Director & Mr. Abhishek Kumar, Scientist C (CS) for their commendable contributions to digital initiative for higher education during the National Convention on th Digital Initiative organized by Ministry of Human Resource Development, Government of India on 9th July, 2017 at Vigyan Bhavan, New Delhi.



NDLTD Leadership Award for the year 2017 for Shodhganga, Scheme of the INFLIBNET Centre was presented to Dr. Jagdish Arora, Director and Mr. Manoj Kumar, Scientist D (CS) during the 20th International Symposium on Electronic Theses and Dissertations held in Washington DC, USA from 7th August to th 9 August, 2017.

* Dr. Jagdish Arora, Director received the Librarian's Choice Award for Lifetime Achievement for the year 2017, instituted by Royal Society of Chemistry, in recognition of individual contribution towards Library and Information Science community of India.

PART – III

International, National Conference, Workshops, Seminars and Training Programme

1. 11th International CALIBER 2017, Anna University, Chennai, 2nd -4th August, 2017

The 11th International CALIBER 2017 was organised by Anna University, Chennai in collaboration with INFLIBNET Centre, Gandhinagar at Vivekananda Auditorium, Anna University, Chennai from 2nd to 4th August 2017 on the theme "Re-Envisioning Role of Libraries: Transforming Scholarly Communication". The main theme of the convention was divided into four sub-themes i.e. Open Education; Research Data and Knowledge Management; Role of Library and Information Centres in the Assessment of Research and Best Practices, Services and Challenges for Re-Envisioning. 21 publishers participated in the exhibition arranged as part of the Convention. More than 260 delegates registered for the convention including delegates from UK and USA. Out of 150 submissions, 53 papers were selected for presentation in various sessions of the convention and 35 papers were selected for poster presentations.

1.1. Inaugural Session

Prof. Dr. S. Ganesan, Registrar, Anna University welcomed the dignitaries, speakers and delegates on the dais as well as guests and participants. Prof. Ganesan appreciated the efforts of all the members of Organizing Committee as well as all other members of other Committees responsible for organising the Convention. Mr. Manoj Kumar K, Convener and Scientist D (CS), INFLIBNET Centre apprised the audience about the recent achievements of the INFLIBNET Centre. He also informed that the proceedings of the Convention are being telecasted live on SWAYAMPRAKASH channels for the professionals in remote locations across the country. Dr. R. K. Chadha, Former Additional Secretary, Parliament of India and Director of the Convention delivered special address. He mentioned that the society is undergoing a transformation in every walk of life and the libraries are not exception. Libraries will have to keep pace with this transformation using information technology. He emphasized that librarians must be ready to rethink, reinvent and re-envision their roles in transformed society. Dr. Jagdish Arora, Director, INFLIBNET Centre, in his special address, briefly highlighted the activities of INFLIBNET Centre and recent initiatives pertaining to hosting of scholarly content, e-learning course content development and its delivery and MOOCs, and India rankings using NIRF framework.



Fig.6o: Mr. Manoj Kumar, Scientist D (CS), Prof. T.V. Geeta, Dean CEG, Dr. Jagdish Arora, Director, INFLIBNET Centre, Mr. Pawan Agrawal (IAS), Mr. Sunil Paliwal, Principal Secretary, Higher Education, Government of Tamil Nadu, CEO, FSSAI, Thiru K P Anbalagan, Honourable Minister of Higher Education, Mr. Rajendra Ratnoo, IAS, Commissioner of Technical Education, Dr. S. Ganesan, Registrar, Dr. R. K. Chadha, Former Additional Secretary, Parliament of India and Dr. G Krishnamoorthy, Director, University Library, Anna University, andon the Dias during 11th International CALIBER 2017, Anna University, Chennai (from L to R)

Prof. T.V. Geeta, Dean CEG, Anna University emphasized on the need to keep a track on the needs of young users who want more of digital content than physical/printed sources in the libraries. She also emphasized that sharing amongst the libraries is much more crucial than depending on what is available in libraries. Standards for creation of metadata for digital objects are needed in order to make better use of datasets/digital objects. Mr. Rajendra Ratnoo, IAS, Commissioner of Technical Education, Government of Tamil Nadu, in his special address, emphasized that knowledge contained in manuscripts need to be protected and digitized for posterity. Mr. Sunil Paliwal, Principal Secretary, Higher Education, Government of Tamil Nadu, in his presidential address, expressed his pleasure for hosting the Convention in Chennai and opined that the future of reading lies in appropriate adaptation and adaptation of emerging technologies. He informed the gathering about the Government's initiative regarding linking up of all the 13 universities in the state of Tamil Nadu, to facilitate pooling of resources with an aim to enhance sharing of resources among libraries.

Mr. Pawan Agrawal (IAS), CEO, FSSAI, in his keynote address, emphasized that libraries are changing in context of services in higher education institutions and particularly with regard to use of technologies. He appreciated the efforts made by INFLIBNET in the context of automation, digitization, networking, content development and delivery, knowledge management, etc. He cautioned that libraries could not be complacent and continue with their traditional role of accumulating information but have to reinvent the services, collection, activities and staff skills.

Thiru K P Anbalagan, Honourable Minister of Higher Education, Government of Tamil Nadu inaugurated the programme. In his inaugural address, he stressed the vital role that libraries have been playing for many centuries in the development of the societies and nations.

Dr. G Krishnamoorthy, Organizing Secretary, CALIBER 2017 and Director, University Library, Anna University Library extended a warm vote of thanks and expressed sincere gratitude to all the dignitaries and invitees for their blessings and deliberations for the success of the event.

1.2. Tutorials

Convention tutorials were delivered on e-Shodh Sindhu by Mr. Ashok Kumar Rai, Scientist D (CS), INFLIBNET Centre; MOOCs by Mr. Jaydev Rath, Microsoft; URKUND: Anti-plagiarism Software; Shodhganga by Mr. James Bennett, Head of Sales, URKUND, Sweden and Mr. Manoj Kumar K., Scientist D (CS), INFLIBNET Centre and invited presentation delivered by Mr. Brandon A. Nordin, Senior Vice President, ACS Publications, USA.



Fig. 61: Participants of the 11th International CALIBER 2017

1.3. Technical Sessions

The presentations in the Convention were organized into the following 6 technical sessions, wherein 52 presentations were made including presentations on the theme papers. 6 commercial product presentations were made by their respective representatives. Details of various sessions, theme speakers, session chair and co-chair are given in Table 39 below.

Session	Theme of the Session	Chair	Co-Chair	Theme Speaker
I	Open Education	Dr. Nabi Hassan, University Librarian, Aligarh Muslim University, Aligarh	Prof. Sanjay Singh, Head, Guahati University, Guwahati	Ms. Snoeyenbos, Manager, John Hopkins University Press, USA and Prof. Uma Kanjilal, Professor, DLIS, Indira Gandhi National Open University, New Delhi
II	Research Data and Knowledge Management-I	Dr. B. Suresh, University Librarian, Madurai Kamaraj University, Madurai	Dr. R. K. Sharma, Librarian, United Nations Information Centre, New Delhi	Dr. Usha Mujoo-Munshi, Librarian, IIPA, New Delhi
III	Research Data and Knowledge Management-II	Prof. S.M. Safi, DLIS, University of Kashmir, Srinagar	Dr. B. Sahoo, Deputy Librarian, IIT Bhubaneswar	Dr. B. Sutradhar, Librarian, IIT Kharagpur
IV	Role of LIC in Assessment of Research	Dr. Mahendra Jadhav, IIT Madras	Dr. Wooma Shankar Dev Nath, Librarian, Guahati University, Guwahati	Dr. Ramesh Gaur, University Librarian, Jawaharlal Nehru University, New Delhi
V	Best Practices, Services and Challenges for Envisioning-I	Dr. N. Varatharajan, Librarian, University of Hyderabad, Hyderabad	Dr. Sarangapani	Dr. John Huagliardo, Executive Director, World eBook Library and Dr. M. Saibaba, Indira Gandhi Centre for Atomic Research, Kalpakkam
VI	Best Practices, Services and Challenges for Envisioning-I	Dr. M. G. Sreekumar, IIM Kohzikode	Dr. P. Nishy, NISCAIR, New Delhi	Prof. K. S. Raghavan, Visiting Scientist, PES University, Bengaluru

Table 39: 11th International CALIBER 2017: Sessions, Theme Speakers, Session Chair and Co-Chair

1.4. Panel Discussion

A panel discussion on the theme of the Convention "Re-Envisioning Role of Libraries: Transforming Scholarly Communication" was organized prior to the concluding session of Convention. Prof. I V Malhan, Head, DLIS, Central University of Himachal Pradesh, Panel Chairman, Prof. Jagtar Singh, Head, DLIS, Punjabi University, Patiala, Prof. A R D Prasad, DRTC, Bangalore, Prof. S Srinivasa

Ragavan, University Librarian and Head, DLIS, Bharathidasan University, Tiruchirappalli, Dr. N C Ghosh, Librarian, CSIR-Indian Institute of Chemical Biology, Kolkata, Dr. G. Mahesh, Sr. Principal Scientist, NISCAIR, New Delhi were panelists for the session. Prof. Jagtar Singh spoke on enhancing the access to information in the new environment. Dr. G Mahesh shared his views regarding changing face of scholarly journals. Dr. N C Ghosh raised pertinent issues in the emerging information environment. Prof. ARD Prasad expressed his views on importance of creation and effective use of data repositories and Prof. Srinivasa focused on information services in the new digital information era. The panel discussion was followed with lively discussions between panelists and participants.

1.5. Valedictory Session

During valedictory function, Dr. G Krishnamoorthy, Organizing Secretary presented an overview of the Convention and Dr. Dinesh Gupta, Rapporteur General of the Convention presented a brief report and major recommendations of the Convention. Prof. (Dr.) S. Ganesan, Registrar, Anna University, Dr. R. K. Chadha, Convention Director and Dr. Jagdish Arora, Director, INFLIBNET Centre presented their views on the achievements of the Convention. Memory mementos were presented to the dignitaries on this occasion. Mr. Manoj Kumar K, Convenor of the Convention extended a warm vote of thanks at the end of the Convention.

1.6. Recommendations

- »» LIS professionals need to explore possibilities of using SWAYAM platform for skill development, refresher courses and continuing education with courses oriented towards emerging technologies and services;
- »» Library and Information Centres need to re-purpose their activities and services oriented towards supporting MOOCs and online courses appropriately;
- »» The LIS community should promote application-based research to keep pace with the changing trends;
- »» Academic libraries should create data repositories /data banks on research outputs of its institute/university, for which a system for capacity enhancement and building a core community of practice needs to be put in place;
- »» Each university/ institution of higher education should foster open licensing policy for making knowledge resources discoverable, shareable and re-usable; and
- »» The LIS Schools need to revamp their curriculum, keeping in view of the changing landscape of information and data seeking patterns.

2. National Conference on iETD 2017 and Advanced Training Programme on Shodhganga, INFLIBNET Centre, Gandhinagar, 13th-15th December, 2017

The INFLIBNET Centre organised National Conference iETD 2017 and Advanced Training Programme on Shodhganga at INFLIBNET Centre, Gandhinagar from 13th to 15th December, 2017. The Conference theme was 'Re-Envisaging iETDs: Roles and Responsibilities'. Mr. Manoj Kumar K, Scientist D (CS), Convenor and Ms. Suboohi S., STO (LS), Co-Convenor coordinated the programme. Mr. Manoj Kumar welcomed the guests and participants and briefed about the INFLIBNET Centre and iETD initiative. He also thanked the universities for contributing their full-text theses and for contributing to making of a formidable collection of 1,73,000 theses that are available in Shodhganga. Prof. Kamlesh Joshipura, Member, Governing Board, INFLIBNET Centre and Former Vice-Chancellor, Saurashtra University inaugurated the Conference by lighting the ceremonial lamp in presence of Dr. Nabi Hasan, University Librarian, Aligarh Muslim University, Dr. Hasan Jamal Abidi, University Librarian, Jamia Millia Islamia, Mr. Manoj Kumar K, Scientist D (CS), Mr. H. G. Hosamani, Scientist C (LS) and Ms. Suboohi Siddiqui, STO (LS), INFLIBNET Centre. In his Inaugural address, Prof. Joshipura emphasised on the need to improve the quality of research in universities as well as to avoid plagiarism that is a major challenge for the higher education.



Fig. 62: Participants of National Conference on iETD 2017 and Advanced Training Programme on Shodhganga, INFLIBNET Centre, Gandhinagar

Dr. Nabi Hasan delivered keynote address. He highlighted the process of digitisation of theses carried out at the AMU, Aligarh. Ms. Suboohi presented a brief account of programme on iETD 2017. Mr. H. G. Hosamani extended a warm vote of thanks at the end of the inaugural function. The representatives of top 10 contributing universities were felicitated during the programme for submitting the highest number of theses into the repository. About 50 participants from more than 30 universities attended the programme including Aligarh Muslim University, Jamia Millia Islamia, Gujarat University, M S University Baroda, IIT Gandhinagar, Savitribai Phule Pune University and Central University of Kashmir.

Details of lectures delivered and presentations made by experts during iETD 2017 and Advanced Training Programme on Shodhgangaare given in below in Table 40.

Topic of Lecture / Presentation	Name of the Experts
ETD Programs/Projects at International Level: an Overview	Dr. T S Kumbar, Librarian, IIT Gandhinagar
Developing Institutional Repositories and Role of Creative Commons	Dr. Nabi Hasan, University Librarian, Aligarh Muslim University, Aligarh
Initiating ETD Digital Library at AIIMS, New Delhi	Dr. S Siva Chidambaram, Chief Librarian, All India Institute of Medical Sciences, New Delhi
Qualitative Academic Writing and Publications	Prof. Jagdish S Joshi, Professor & Director, UGC-Human Resource Development Centre (UGC-ASC), Gujarat University, Ahmedabad
iETD at MSU : A Case Study	Dr. Mayank Trivedi, University Librarian, The Maharaja Sayajirao University of Baroda, Baroda
Electronic Theses & Dissertations (ETDs) Shodhganga: A Need for Extension	Dr. D. D. Mestri, Library & Information Officer, International Institute for Population Sciences, Mumbai
ETD @ Shodhganga by Universities in Rajasthan	Mr. Prashant Shrivastava, Librarian, AIIMS, New Delhi
A Model for Temporal Metadata (XML Based) Management in Digital Libraries	Mr. Nisarg Nalinbhai Pathak, Controller of Examination, Swarnim Gujarat Sports University, Gandhinagar
University Ranking Parameter@Research and Present Status of Shodhganga in Digital India	Mr. Sukanta Kumar Patra, Assistant Librarian, Jadavpur University and Ms. Mousumi Das, Assistant Librarian, Techno India University, Kolkata
Introduction to Shodhganga/Shodhgangotri	Mr. Manoj Kumar K, Scientist D(CS), INFLIBNET Centre, Gandhinagar
Introduction to DSpace and Building IR	Mr. Raja V., Scientist B (CS), INFLIBNET Centre, Gandhinagar
Anti-Plagiarism Tools and Services and Hands- on for Using Anti Plagiarism Software URKUND and Policy Guidelines	Mr. Manoj Kumar K, Scientist D (CS) & Ms. Suboohi S., STO(LS), INFLIBNET Centre, Gandhinagar
Role of Persistent Identity (ORCID) and Research Information Network System in Higher Education	Mr. Kannan P, Scientist C (LS), INFLIBNET Centre, Gandhinagar
Introduction to Library Standards, Metadata and Dublin Core	Mrs. Vaishali Shah, Scientist B (LS), INFLIBNET Centre, Gandhinagar

Table 40: Presentations and Lectures during the iETD 2017 and Advanced Training Programme on Shodhganga

3. Training Programmes on Installation and Implementation of the SOUL Software at INFLIBNET Centre

The INFLIBNET Centre provides Orientation Training Programme on Installation and Implementation of the SOUL Software. The programme is specially designed for imparting training to new users of SOUL software. The morning sessions of the programme are devoted to theoretical lectures and demonstrations, while the afternoon sessions are completely earmarked for “hands-on” practice. The “hands-on” practical sessions are conducted in well-equipped computer laboratory under the guidance of trained staff members of the Centre. The course content of the programme is designed to cover the following topics:

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

Generally, two participants from every user institution of SOUL software are invited to join this training programme, one each with computer and library science background. As on 31st March 2018, a total no. of 139 such training programmes were organized at the Centre. During the period under report, 8 training programmes were organized and training was imparted to 94 participants from different institutions as shown in Table 41 below.

Sl. No.	Name of Training Programmes	Period	No. of Participants
1	132 nd Training Programme on SOUL 2.0	17 th – 22 nd April, 2017	18
2	133 rd Training Programme on SOUL 2.0	29 th May– 03 rd June, 2017	16
3	134 th Training Programme on SOUL 2.0	17 th – 22 nd July, 2017	8
4	135 th Training Programme on SOUL 2.0	04 th – 09 th September, 2017	8
5	136 th Training Programme on SOUL 2.0	6 th – 11 th November, 2017	7
6	137 th Training Programme on SOUL 2.0	18 th – 23 th December, 2017	11
7	138 th Training Programme on SOUL 2.0	29 th January – 03 th February, 2018	13
8	139 th Training Programme on SOUL 2.0	12 th – 17 th March 2018	13
	Total		94

Table 41: SOUL Training Programmes Organized at the INFLIBNET Centre during 2017-18

4. INFLIBNET Regional Training Programme on Library Automation (IRTPLA)

4.1. INFLIBNET Regional Training Programme on Library Automation (IRTPLA), Indian Institute of Advance Study (IIAS), Shimla, 17th- 21st July, 2017

Five-day INFLIBNET Regional Training Programme on Library Automation was organised by Indian Institute of Advance Study (IIAS), Shimla in collaboration with INFLIBNET Centre, Gandhinagar at Indian Institute of Advance Study, Shimla from 17th to 21st July, 2017. Mr. Premchand, Librarian and Secretary, IIAS coordinated the programme and welcomed the guests and participants. Prof. Anand Kumar, National Fellow, IIAS inaugurated the programme. In his Inaugural speech, Prof. Anand Kumar highlighted the importance of libraries in the society and academic institutions and emphasised that libraries should improve its services to attract more users to the libraries. Dr. Jagdish Arora, Director, INFLIBNET Centre delivered special address and informed that the programme received overwhelming response and it has become truly a national event, he further said that the time has come that such programmes are named as INFLIBNET National Training Programme on Library Automation (INTPLA). He emphasized that libraries should adopt technology in respective institutes and work towards evolving a service platform to offer integrated search interface for subscribed e-resources, open access resources and institutional repositories. Dr. Usha Munshi, Librarian, Indian Institute of Public Administration delivered keynote address. She spoke about big data and highlighted the changing landscape of library and library services. Mrs. Neeraj Sharma, Assistant Librarian extended a warm vote of thanks at the end of inaugural function. Prof. I V Malhan, Head, DLIS, Central University of Himachal Pradesh, Dharmshala, Dr. R K Chadha, Former Additional Secretary, Parliament of India, New Delhi, Mr. Yatrik Patel, Scientist D (CS), Mr. Divyakant Vaghela, Scientist B (CS), INFLIBNET Centre, Gandhinagar and Prof P K Ahluwalia, Former Professor, Himachal Pradesh University, Shimla were experts during the training programme. Representatives of the publishers including Mr. Sanjeev Goswami, MD, Springer, Mr. Neeraj Kataria, Turnitin and Mr. V Pandita, Head, Technology Identity and Automation made presentations on their respective products.

Prof. Rajinder Singh Chauhan, Vice Chancellor, Himachal Pradesh University was chief guest during valedictory function. In his concluding address, he spoke about changing role of library professionals in digital environment. He opined that library professionals should develop competency in handling computers and digital resources in libraries. Mr. Premchand, Librarian and Secretary, IIAS extended a warm vote of thanks at the end of the programme. Around 53 participants including library professionals from different parts of the country attended the programme.

4.2. INFLIBNET Regional Training Programme on Library Automation (IRTPLA), Mother Teresa Women's University, Kodaikanal, 20th-24th August, 2017

Five-day INFLIBNET Regional Training Programme on Library Automation was organised by Mother Teresa Women's University in collaboration with INFLIBNET Centre, Gandhinagar at Mother Teresa Women's University, Kodaikanal from 20th to 24th August, 2017. Dr. K. Nithyanandam, Former

Director & Librarian, Anna University coordinated the programme. Inaugural function started in the presence of Dr. K. Nithyanandam, Dr. T. Kamali, Dean - Research, Mother Teresa Women's University, Mr. B. S. Ravi Shankar, Training Consultant, Informatics, Mr. P. Kannan, Scientist C (LS), INFLIBNET Centre and Mr. T. Venkata Ravikiran, SOUL Technical Assistant, INFLIBNET Centre. Theoretical lectures were followed by "hands-on" practice on various modules of the SOUL software. All the practical sessions of the Training Programme involved intensive discussions and interactions on various aspects of SOUL software between participants and the resource persons. Mr. H. G. Hosamani and Mr. P. Kannan, Scientists C (LS), INFLIBNET Centre, Dr. K. Nithyanandam, Former Director & Librarian, Anna University, Dr. R. Balasubramanian, Dr. S. Srinivasa Ragavan, Professor and Head and Dr. P. Ganesan, Deputy Librarian, Mother Teresa Women's University were experts during the technical sessions. Mr. T. Venkata Ravikiran, SOUL Technical Assistant, INFLIBNET Centre was resource person for practical sessions.

In the valedictory function, Dr. G Valli, Hon'ble Vice-Chancellor and Dr. N Geetha, Registrar, Mother Teresa Women's University were chief guests. Dr. G Valli, Hon'ble Vice-Chancellor, distributed certificates of Participation to the participants. Dr. P Ganesan, Deputy Librarian extended a warm vote of thanks to the authorities at INFLIBNET Centre and University at the end of the programme. Around 32 participants from Tamil Nadu attended the programme.

5. Specialized Training Programmes and National Workshops

5.1. Two-day National Workshop on Ethical Issues and Use of Anti-Plagiarism Software for Research Integrity, INFLIBNET Centre, Gandhinagar, 6th -7th April, 2017

Two-day National Workshop on Ethical Issues and Use of Anti-Plagiarism Software for Research Integrity was organized at INFLIBNET Centre, Gandhinagar from 6th to 7th April, 2017. Mr. Manoj Kumar K, Scientist D (CS) coordinated the Workshop. He welcomed the participants and gave an overview of the programme. Dr. Savita R. Gandhi, Head, Rollwala Computer Centre, Gujarat University inaugurated the Workshop in presence of Dr. Jagdish Arora, Director, INFLIBNET Centre. In her Inaugural address, Prof. Gandhi spoke about planning of research, research methodologies and use of anti-plagiarism tools. Ms. Suboohi S., STO (LS) extended a warm vote of thanks at the end of the inaugural session. 13 participants including LIS professionals from North-eastern region of India and research scholars attended the programme. Details of lectures delivered and presentations made by experts during the National Workshop are given in Table 42 below.

Topic of Lecture / Presentation	Name of the Experts
Research Methodology and Planning of Research	Dr. Savita R. Gandhi, HOD, Rollwala Computer Centre, Gujarat University
Qualitative Academic Writing and Publications	Dr. Jagdish Joshi, UGC-Human Resource Development Centre, Gujarat University
Ethics in Research & Use of Anti-Plagiarism Tools for Quality of Research	Mr. Manoj Kumar K., Scientist D (CS), INFLIBNET Centre

Topic of Lecture / Presentation	Name of the Experts
Academic Identity an Overview: ORCID	Mr. Kannan P, Scientist C (LS), INFLIBNET Centre
Statistical Methods for Research Data Analysis using SPSS	Mr. Hitesh Solanki, Scientist B (CS), INFLIBNET Centre
Use of Reference Management Tools and Writing Research Report	Dr. Miteshkumar Pandya, Scientist B (LS), INFLIBNET Centre
Assessing and Evaluating Research Performance using Bibliometric Indicators	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre

Table 42: Presentations and Lectures during the Two-day National Workshop on Ethical Issues and Use of Anti-Plagiarism Software for Research Integrity

5.2. Three-day Workshop-cum-Training Programme on Bibliometrics Research and Output Analysis, Mizoram University, Aizwal, 11th -13th April, 2017

Three-day National Workshop-cum-Training Programme on Bibliometrics and Research Output Analysis was organized by Department of Library and Information Science, Mizoram University in collaboration with INFLIBNET Centre, Gandhinagar, Gujarat at Conference Hall, Mizoram University, Aizwal from 11th to 13th April, 2017. Prof. R. N. Mishra, Head, DLIS welcomed the dignitaries, resource persons, participants, Deans and Heads of various departments, faculty members and other invitees. Prof. N. V. R. Jyoti Kumar, Dean, School of Economics, Management and Information Science, Mizoram University inaugurated the Workshop with lighting of lamp in front of the portrait of Dr. S. R. Ranganathan along with Dr. Udai Narayan Singh, Former University Librarian, Guru Ghasidas University, Bilaspur, Dr. Manorama Tripathi, Deputy Librarian, Jawaharlal Nehru University, New Delhi, Prof. R. N. Mishra, HOD and Prof. Pravakar Rath, DLIS, Mizoram University, Aizwal. Prof. Mishra, in his welcome address, pointed out the importance of bibliometric and scientometric research and introduced bibliometrics, scientometrics, bibliometrics laws, bibliometric tools and techniques. Prof. Jyoti Kumar, in his inaugural address, pointed out the importance of bibliometrics and expressed his personal interest in bibliometric research. He entrusted the researchers having M. Phil. and Ph. D. degree to maintain the purpose of research and stressed upon framing of research guidelines based on ground reality.

Dr. Manorama Tripathi, in her address, stressed upon the national ranking frameworks adopted by the government for ranking of universities based on research productivity as well as role of research division's of universities in this regard. She also suggested to utilize various software tools and databases for research purposes and emphasized on bibliometric studies to highlight the research productivity of universities and institutions. Dr. Singh, in his address, briefly discussed historical account of bibliometrics and its importance in research. He specially pointed out the efforts of Dr. Eugene Garfield for evolving Science Citation Index. He focused upon scientometric researches conducted at the world level and highlighted the fact that Indian contributions in bibliometrics do

not attract enough citations. He also stressed upon the significance of bibliometric research in terms of science policy development.

Prof. Pravakar Rath, in his address, emphasized on the research conditions in present scenario and linked it with the current publication pattern and performance based appraisal system. He spoke about NIRF ranking of universities based on research output from Web of Science, Scopus and ICI databases. He also pointed the futuristic approach towards research productivity of universities and institutions for getting more financial grants from the government agencies. Dr. Manoj Kumar Verma, Assistant Professor, DLIS, Mizoram University and Coordinator of the Workshop extended a warm vote of thanks at the end of the inaugural session. Details of lectures delivered and presentations made by experts during the training programme are given in Table 43 below.

Topic of Lecture / Presentation	Name of Expert and Institution
INFLIBNET 's Activities and Services	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre
Bibliometrics: An Overview	Dr. Udai Narayan Singh, Former University Librarian, Guru Ghasidas University
Bibliometric Laws and its Applications	Dr. Manorama Tripathi, Deputy Librarian, Jawaharlal Nehru University
Research Impact Metrics: Calculation and Context	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre
Relevance of Academic Research Output Analysis	Dr. Manorama Tripathi, Deputy Librarian, Jawaharlal Nehru University
Web of Science (Demonstration)	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre
BibExcel: Tools and Techniques Part I & Part II and Hands-on Practice	Mr. Hitesh Solanki, Scientist B (CS), INFLIBNET Centre
Relationship and Difference between Bibliometrics, Scientometrics, Informetrics, Webometrics and Altmetrics	Dr. Manorama Tripathi, Deputy Librarian, Jawaharlal Nehru University
BibExcel : Tools and Techniques Part III & Part IV and Hands-on Practice	Mr. Hitesh Solanki, Scientist B (CS), INFLIBNET Centre
VOSViewer: Tools and Techniques Part V and Hands-on Practice	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre

Table 43: Presentations and Lectures during the Workshop-cum-Training Programme on Bibliometrics Research and Output Analysis

A total number of 30 participants comprising of library science professionals from Assam, Manipur, Meghalaya, Himachal Pradesh, Tripura and Mizoram, faculty members and research scholars of the Department participated in the Workshop.

5.2.1. Valedictory Session

Dr. Manoj Kumar Verma, Workshop Coordinator, welcomed the Chief Guest Prof. Lianzela, Vice-Chancellor, Mizoram University and participants. Dr. Verma acknowledged the support of INFLIBNET Centre, Gandhinagar, Gujarat for sponsoring the National Workshop. Dr. Akhandanand Shukla, Assistant Professor, DLIS and Workshop Co-coordinator presented the report of the Workshop in detail. Prof. Lianzela shared his views on NIRF for improving research productivity of the universities, and organization of such kind of training programmes for stakeholders of the society. He congratulated the department and organizers for having such kind of training programmes. Prof. R. K. Ngurtinkhuma, DLIS opined that such kinds of programmes should be organised more often for getting technical knowledge on quantitative methods in library and information science. He stressed upon to use bibliometrics for research purposes in future. Prof. R. N. Mishra, Head, DLIS extended a warm vote of thanks at the end of the valedictory session.

5.3. Five-day National Workshop on Creation and Management of Digital Collection using DSpace, INFLIBNET Centre, Gandhinagar, 24th- 28th April, 2017

Five-day National Workshop on Creation and Management of Digital Collections using DSpace was organised at INFLIBNET Centre, Gandhinagar from 24th to 28th April, 2017. Mr. Yatrik Patel, Scientist D (CS), Mr. Swapnil Patel, Scientist B (CS) and Mr. H G Hosamani, Scientist C (LS), INFLIBNET Centre coordinated the Workshop. The Workshop aimed to equip participants with skills of developing and managing their own digital repositories, and for creating awareness about new developments in the field of library and information science, such as, managing information sources in digital environment, building institutional repository, networking and social media, management of e-resources, latest development and trends in LIS with glimpse on library automation along with hands-on-training. Four participants took part in the Workshop. Mr. Swapnil Patel and Mr. Hitesh Solanki, Scientists B (CS), Mr. Vijay Shrimali, STA (CS) and Mr. Nrutik Prajapati, Project Officer (CS) from INFLIBNET Centre served as resource persons for the Workshop. Details of lectures delivered and presentations made by experts during the National Workshop are given in Table 44 below.

Topic of Lecture / Presentation	Name of Expert and Institution
INFLIBNET Activities, Services & Future Plans	Mr. Manoj Kumar K., Scientist D (CS)
Introduction to Open Source Software and Linux	Mr. Raja V., Scientist B (CS)
Digitization & Digital Preservation Issues & Challenges	Mr. Kannan P., Scientist C (LS)
Institutional Repository using DSpace	Mr. Yatrik Patel, Scientist D (CS)
Metadata Standards for Digital Content	Mr. Hitesh Solanki, Scientist B (CS)
DSpace: Basic Configuration & Administration	Mr. Swapnil Patel, Scientist B (CS) and Mr. Vijay Shrimali, STA (CS)
IPR & Copyright Issues in Creating and Managing of Institutional Repository	Mr. Dinesh Pradhan, Scientist B (LS)

Topic of Lecture / Presentation	Name of Expert and Institution
DSpace: Basic Customization	Mr. Swapnil Patel, Scientist B (CS) and Mr. Vijay Shrimali, STA (CS)
Project Presentation: Creation of IR Using DSpace	Mr. Swapnil Patel, Scientist B (CS) and Mr. Vijay Shrimali, STA (CS)
DSpace Import-Export & Backup-Restore	Mr. Raja V., Scientist B (CS)

Table 44: Presentations and Lectures during the Five-day National Workshop on Creation and Management of Digital Collection using DSpace

5.4. Five-day National Workshop on Research Data and Statistical Analysis using R Programming, INFLIBNET Centre, Gandhinagar, 15th- 19th May, 2017

Five-day National Workshop on Research Data and Statistical Analysis using R Programming was organized from 15th to 19th May, 2017 at INFLIBNET Centre, Gandhinagar. Mr. Hitesh Solanki and Mr. Divyakant Vaghela, Scientists B (CS) and Mr. H G Hosamani, Scientist C (LS) coordinated the programme. Dr. Jagdish Arora, Director, INFLIBNET Centre inaugurated the Workshop. The aim of this Workshop was to provide "hands-on" training in understanding the concepts in data science and statistical analysis using R programming. The R programming language is one of the most widely used programming languages among the data scientists and researchers. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 45.

Topic of Lecture / Presentation	Name of Expert and Institution
INFLIBNET Activities and Service	Mr. Yatrik Patel, Scientist D (CS), INFLIBNET Centre
Introduction to R programming (Installation, getting Started R, Tinn-R, Rcommander, R Studio)	Mr. Vijay Shrimali, STA (CS), INFLIBNET Centre
Data Types in R (Constants, vectors, matrix, data frames, lists)	Ms. Mitisha Vaidya, Project Officer (CS), INFLIBNET Centre
Introduction to R programming (Data Handling in R)	Mr. Divyakant Vaghela, Scientist B (CS), INFLIBNET Centre
Introduction to R programming (Working with functions, summary measures)	Mr. Hitesh Solanki, Scientist B (CS), INFLIBNET Centre
Data Visualization using R: Base, lattice and ggplot packages	Mr. Divyakant Vaghela, Scientist B (CS), INFLIBNET Centre
Statistical Analysis using R (Probability Distribution using R)	Dr. R. D. Chaudhari, Associate Professor M G Science Institute
Statistical Analysis using R (Hypothesis Testing -I (Parametric))	Mr. Hitesh Solanki, Scientist B (CS), INFLIBNET Centre
Statistical Analysis using R (Simple and Multiple Regression Analysis)	Dr. R. D. Chaudhari, Associate Professor, M G Science Institute

Topic of Lecture / Presentation	Name of Expert and Institution
Statistical Analysis using R (Analysis of Variance (One way and two-way ANOVA))	Dr. R. D. Chaudhari, Associate Professor, M G Science Institute
Statistical Analysis using R (Hypothesis Testing -II (Non Parametric))	Dr. Dharmesh Raykundaliya, Assistant Professor, Sardar Patel University
Statistical Analysis Using R (Logistic Regression)	Dr. Dharmesh Raykundaliya, Assistant Professor, Sardar Patel University
Reproducible Research using Rstudio (knitr and markdown packages)	Dr. R. D. Chaudhari, Associate Professor, M G Science Institute
Reproducible Research using Rstudio (bookdown packages and blogs, website)	Dr. R. D. Chaudhari, Associate Professor, M G Science Institute
Statistical Analysis Using R (Time Series Analysis)	Dr. Dharmesh Raykundaliya, Assistant Professor, Sardar Patel University
Statistical Analysis Using R (Factor Analysis)	Dr. Dharmesh Raykundaliya, Assistant Professor, Sardar Patel University
Discussion Forum & Group Presentation	Dr. R. D. Chaudhari, Associate Professor, M G Science Institute

Table 45: Presentations and Lectures during Five-day National Workshop on Research Data and Statistical Analysis using R Programming

Mr. Vijay Shrimali, STA (CS), Ms. Mitisha Vaidya, Project Officer (CS), Ms. Tulsi Punjani, Project Assistant (Statistics) and Mr. Divya Vyas, Project Assistant (LS) were resource persons in practical sessions of the training programme. Certificates of participation were distributed at the end of programme. 37 participants including IT professionals, LIS professionals and research scholars attended the programme.

5.5. Three-day National Workshop on Metadata Standards: Retrospective Conversion, Preservation and Migration, INFLIBNET Centre, Gandhinagar, 7th-9th June, 2017

Three-day National Workshop on Metadata Standards: Retrospective Conversion, Preservation and Migration was organized at INFLIBNET Centre, Gandhinagar from 7th to 9th June 2017. Mrs. Vaishali Shah and Dr. Miteshkumar Pandya, Scientists B (LS) and Mr. H G Hosamani, Scientist C (LS), INFLIBNET Centre coordinated the Workshop. Mrs. Vaishali Shah welcomed the guests and participants. Mr. Manoj Kumar K, Scientist D (CS) inaugurated the workshop. Dr. Miteshkumar Pandya extended a warm vote of thanks at the end of the Workshop. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 46.

Topic of Lecture / Presentation	Name of Expert and Institution
INFLIBNET Activities and Services	Mr. Manoj Kumar K, Scientist D (CS)
Importance of Metadata and Overview of Metadata Standards	Mr. Dinesh Pradhan, Scientist B (LS)

Topic of Lecture / Presentation	Name of Expert and Institution
Understanding MARC21, MARCXML and Dublin Core	Mr. Yatrik Patel, Scientist D (CS)
"Hands-on" Demonstration: Copy Cataloguing and XL2MARCXML Utility Developed by the INFLIBNET Centre	Mr. Divyakant Vaghela, Scientist B (CS)
Retrospective Conversion: Introduction, Need, Scope, Planning, Method & Steps: "Hands-on" Practice	Mrs. Vaishali Shah, Scientist B (LS)
Insights for Converting Multilingual Bibliographic Data	Mr. Yatrik Patel, Scientist D (CS)
Retrospective Conversion of Metadata (Books and Journal Articles) using ISISMARC	Dr. Miteshkumar Pandya, Scientist B (LS)
Data Migration using MARCEdit	Dr. Miteshkumar Pandya and Mrs. Vaishali Shah, Scientists B (LS)
Understanding Metadata Harvesting & Preservation	Dr. Miteshkumar Pandya, Scientist B (LS)

Table 46: Presentations and Lectures during National Workshop on Metadata Standards: Retrospective Conversion, Preservation and Migration

Mrs. Vaishali A Shah & Dr. Miteshkumar Pandya, Scientist-B (LS), Mr. Vijaykumar Shrimali, STA (CS), Mr. Darshan Modi, Project Associate (CS), Ms. Divya S Vyas, Project Assistant (LS) were resource persons in practical sessions. 17 participants from different institutes attended the Workshop.

5.6. Three-day National Workshop on E-Resources Management, INFLIBNET Centre, Gandhinagar, 14th -16th June, 2017

Three-day Training Programme on E-resources Management was organized at INFLIBNET Centre, Gandhinagar from 14th to 16th June, 2017. Mr. Ashok Kumar Rai, Scientist D (CS) and Mr. Dinesh Ranjan Pradhan, Scientist B (LS) coordinated the Workshop. Mr. Ashok Kumar Rai, Scientist D (CS) welcomed the participants and gave an overview of the programme. Dr. Jagdish Arora, Director INFLIBNET Centre inaugurated the Workshop. Mr. Dinesh Ranjan Pradhan extended a warm vote of thanks at the end of the inaugural session. 13 participants from various parts of India attended the programme. Mrs. Roma Asnani, STA (LS) and Mr. Nipul Shihora, Project Associate (LS) were resource persons during practical sessions. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 47.

Topic of Lecture / Presentation	Name of the Experts
Life-cycle of e-Resources, Licensing and Negotiation of e-resources	Dr. T S Kumbar, Librarian, IIT Gandhinagar
Access Management of e-Resources	Mr. Raja V., Scientist B (CS), INFLIBNET Centre
Comparative study of E-resources Management Software	Mr. Pallab Pradhan, Scientist B(LS), INFLIBNET Centre
CORAL: Open Source ERM Introduction, Installation, Configuration & Backup	Mr. Kannan P, Scientist C(LS), INFLIBNET Centre
E-resource Search, Discovery Services & Metadata Management	Mr. Dinesh Pradhan, Scientist B(LS), INFLIBNET Centre
CORAL: Resources, Organizations & Licensing Module	Mr. Mitesh Pandya, Scientist B(LS), INFLIBNET Centre
Understanding License Agreements for Subscription of e-Resources	Mr. Ashok Kumar Rai, Scientist D(CS), INFLIBNET Centre
Economics of e-Resources & Evaluation	Ms Kruti J Trivedi, Scientist B(LS), INFLIBNET Centre
CORAL: COUNTER & SUSHI Usage Standards & Usage Statistics Module	Mr. Dinesh Pradhan, Scientist-B(LS), INFLIBNET Centre

Table 47: Presentations and Lectures during National Workshop on E-Resources Management

5.7. Three-day National Workshop on Creating and Managing Digital Libraries using Eprints, INFLIBNET Centre, 5th-7th July, 2017

Three-day National Workshop on Creating and Managing Digital Libraries using EPrints was organised at INFLIBNET Centre, Gandhinagar from 5th to 7th July, 2017. Mrs. Vaishali Shah, Scientist B (LS), Mr. Raja V, Scientist B (CS) and Mr. H G Hosamani, Scientist C (LS), INFLIBNET Centre coordinated the Workshop. The Workshop aimed to equip participants with skills for developing and managing their own digital repositories and to create awareness in new developments in the field of library and information science, such as, managing information sources in digital environment, building institutional repository, networking and social media, management of e-resources, latest development and trends in LIS with glimpses on library automation along with “hands-on” training. Four participants attended the Workshop. Mrs. Vaishali Shah, Scientist B (LS), Mr. Raja V, Scientist B (CS), Mr. Vijay Shrimali, STA (CS), Mr. Darshan Modi, and Ms. Divya Vyas, Project Associate (LS) from INFLIBNET Centre served as resource persons for the Workshop. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 48.

Topic of Lecture / Presentation	Name of the Expert
INFLIBNET Activities and Services	Mr. Raja V, Scientist B(CS)
Institutional Repositories: a Primer	Mr. Swapnil Patel, Scientist B (CS)
Metadata Standards and Institutional Repositories	Mrs. Vaishali Shah, Scientist B (LS)

Topic of Lecture / Presentation	Name of the Expert
Introduction to Linux and understanding file system layout, creation of user and group, and basic commands	Mr. Hitesh Solanki, Scientist B (CS)
Understanding EPrints (Features, Statistics, Bazaar, Altmetrics, etc.)	Mr. Kannan P, Scientist C (LS)
Creation of IR using EPrints and Installation	Mr. Raja V, Scientist B(CS)
EPrints Administration	Mr. Hitesh Solanki, Scientist B (CS)
EPrints Data Submission	Mrs. Vaishali Shah, Scientist B (LS)
Maintenance, Backup and Restore	Mr. Swapnil Patel, Scientist B (CS)

Table 48: Presentations and Lectures during National Workshop on Creating and Managing Digital Libraries using Eprints

5.8. Five-day National Workshop on Design and Development of Digital Libraries using DSpace, Doon University, Dehradun, 10th-14th July, 2017

Five-day National Workshop on Design and Development of Digital Libraries using DSpace, was organised by Doon University, Dehradun in collaboration with INFLIBNET Centre, Gandhinagar at Central Library, Doon University, Dehradun from 10th to 14th July, 2017. Mr. Ashish Kumar, Assistant Librarian coordinated the Workshop and welcomed the guests and participants. Prof. Kusum Arunachalam, Director, IQAC inaugurated the programme in the presence of Prof. H. C. Purohit, Dean (Management) and DSW, Mr. Ashish Kumar, Assistant Librarian, Doon University, Mr. Swapnil Patel and Mr. Gaurav Prakash, Scientists B (CS) and Mr. Vijaykumar Shrimali, STA (CS), INFLIBNET Centre, Gandhinagar. The main objective of the Workshop was to provide background knowledge of the digital library and its related concepts. Mr. Swapnil Patel, Mr. Gaurav Prakash, Scientists B (CS) and Mr. Vijaykumar Shrimali, STA (CS), INFLIBNET Centre, Mr. Rajneesh Kumar, Research Scholar, Kumaun University, Mr. Ashish Kumar, Assistant Librarian, Doon University and Prof. Mallikarjun Angadi, Deputy Librarian, Tata Institute of Social Sciences served as resource persons. Theoretical lectures were followed by “hands-on” practice on various modules of the DSpace. All the practical sessions of the Workshop involved intensive discussions and interactions on various aspects of DSpace between participants and the resource persons. 37 participants from different institutions of Uttarakhand attended the programme. Mr. Ashish Kumar, Assistant Librarian extended vote of thanks at the end of the programme.

During the valedictory function, Prof. Kusum Arunachalam, Director, IQAC, Prof. H. C. Purohit, Dean (Management) and DSW, Dr M.S. Mandarwal, Registrar were chief guests. Certificates of participation were distributed to the participants. Prof. Purohit extended a warm vote of thanks on behalf of the University to all the participants, resource persons and staff involved in this Workshop. He especially thanked INFLIBNET Centre for their technical and financial support for the Workshop.

5.9 One-day MOOC Orientation Programme for Course Coordinators, Indian Institute of Public Administration (IIPA), New Delhi, 25th July, 2017

The INFLIBNET Centre organized one-day MOOC Orientation Programme for Course Coordinators in the subject Library and Information Science at IIPA, New Delhi on 25th July, 2017. The objective of this programme was to educate the course coordinators and familiarize them with SWAYAM platform, content uploading, student's management and deliver of the course. Dr. Jagdish Arora, Director, INFLIBNET Centre gave an overview about the SWAYAM programme, and it's important to reach out to the critical mass in the higher education system, role of course coordinator and host institutes, type of credential to the learners, course credit transfer, etc. Mr. Abhishek Kumar, Scientist C (CS) and Mr. Kannan P, Scientist C (LS), INFLIBNET Centre elaborated upon various features of the SWAYAM platform such as content uploading, preparation of test, assignment and feedback, student management, discussion forum, etc. After detailed discussions, live demo was shown to the course coordinators to manage the course effectively. Prof I V Malhan, Head & Professor, DLIS, Central University of Himachal Pradesh, Prof I K Rao, Former Director, DRTC, Bangalore, Prof Dinesh Gupta, Professor, Vardhaman Mahaveer Open University, Prof. Devika Madalli, Professor, DRTC, Dr Usha Munshi, Librarian, IIPA and Prof Anubhuti Yadav, Associate Professor, Indian Institute of Mass Communication attended the orientation programme.

5.10. Three-day Workshop on VIVO Profile Management System and Discovery, INFLIBNET Centre, Gandhinagar, 16th-18th August, 2017

The INFLIBNET Centre organized National Workshop on VIVO Profile Management System and Discovery, Gandhinagar from 16th to 18th August 2017 at INFLIBNET Centre, Gandhinagar. Mr. Kannan P and Mr. H G Hosamani, Scientist C (LS), INFLIBNET Centre coordinated the Workshop. Mr. Kannan welcomed the participants and gave an overview of the Workshop. Mr. Ashok Kumar Rai, Scientist D (CS), INFLIBNET Centre inaugurated the workshop. In his inaugural address, he emphasized upon the importance of research information management system and its impacts on the institutional ranking system, research proposal, etc. Mr. H G Hosamani, Scientist C (LS) extended a warm vote of thanks. Details of lectures delivered and presentations made by experts during the Workshop are given below in Table 49.

Topic of Lecture / Presentation	Name of the Experts
INFLIBNET: Activities and Services	Mr. Abhishek Kumar, Scientist C (CS), INFLIBNET Centre
Research Innovation 2.0 and Academic Identity	Dr. Shantanu Ganguly, Fellow, TERI
Linux Installation: Demo and Basic Linux Commands	Mr. Hitesh Solanki, Scientist B (CS), INFLIBNET Centre
VIVO: An Overview (on Skype)	Prof. Michale Conlon, Professor, Florida University and VIVO Project Director
VIVO Installation and Basic Configuration	Mr. Raja V, Scientist B (CS), INFLIBNET Centre

Topic of Lecture / Presentation	Name of the Experts
"Hands-on" Practice: Admin Features, Site Configuration, Advanced Data Tools	Mr. Hitesh Solanki, Scientist B (CS), INFLIBNET Centre
Profile Creation and Linking of Profile	Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre& Practical Team
Profile Ingest using VIVO Pump and Co-author Network and Map of Science	Mr. Kannan P., Scientist C (LS), INFLIBNET Centre&PracticalTeam
Backup and Restore	Mr. Raja V., Scientist B (CS) , INFLIBNET Centre

Table 49: Presentations and Lectures Workshop on VIVO Profile Management System and Discovery

Prof Michale Conlon, Professor, Florida University and VIVO Project Director delivered a talk on VIVO: overview through Skype. Prof Michale elaborated upon the history and development of VIVO over the period of time and its current status. He also discussed how it is used and its impact on the academic community all over the world particularly in US and Western countries. Participants and staff members of INFLIBNET Centre attended the lecture. 22 participants attended the Workshop from various institutes such as IIT, IIM and State and Central Universities across the country. Dr Jagdish Arora, Director, INFLIBNET Centre delivered the valedictory address and distributed certificates of participation and course material during the valedictory session.

5.11. Workshop on J-Gate @ e-ShodhSindhu Journal Discovery and Resource Sharing Platform, INFLIBNET Centre, 30th August, 2017

Workshop on J-Gate @ e-ShodhSindhu journal discovery and resource sharing platform was organised at INFLIBNET Centre, Gandhinagar on 30th August, 2017. Mr. Ashok Kumar Rai, Scientist D (CS), INFLIBNET Centre delivered welcome address. Dr. Jagdish Arora, Director, INFLIBNET Centre inaugurated the Workshop. Mr. N V Sathyanarayana, CMD, Informatics Group made a presentation on J-Gate Vision & Program Goals followed by illustrious presentation by Mr. Soma Sundaresh on existing J-Gate and developments in progress. Mr. Sanjay Grover, CEO, Informatics Publishing Ltd demonstrated on User Module of Resource Sharing (ILL). Mr. Vivek Ghosh, Product Marketing Manager, Informatics Publishing Ltd demonstrated on Admin Module. 21 Institutional Members of e-Shodh Sindhu, 10 staff members of INFLIBNET Centre, 9 Team Members from Informatics Publishing Ltd attended the Workshop.

A Panel Discussion on Resource Sharing, Copyright and Fair Use by Libraries was organized prior to the concluding session of the Workshop in collaboration with ADINET at IIM Ahmedabad. Dr. Prabuddha Ganguli delivered keynote address on copyright laws in India and USA and its implications on libraries. The participating panelists were Mr. N.V. Sathyanarayana, CMD, Informatics Group, Dr. Jagdish Arora, Director, INFLIBNET Centre, Dr. Anilkumar H., Librarian, IIM Ahmedabad, Prof. Prabuddha Ganguli, CEO, Vision-IPR and Visiting Professor, Rajiv Gandhi School

of Intellectual Property Law, Indian Institute of Technology Kharagpur and Dr. T.S. Kumbar, Librarian, IIT Gandhinagar.

5.12. Three-day National Workshop on Research Impact Evaluation and Altmetrics, INFLIBNET Centre, Gandhinagar, 23rd -25th October, 2017

The INFLIBNET Centre organized National Workshop on Research Impact Evaluation and Altmetrics at INFLIBNET Centre, Gandhinagar from 23rd to 25th October 2017. Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre coordinated the Workshop. Dr. Jagdish Arora, Director, INFLIBNET Centre inaugurated the Workshop. The aim of the Workshop was to give an overview of altmetrics, its usefulness in research impact evaluation and exploration of three tools that are used for extracting social metrics or altmetrics data for research evaluation. Mr. H G Hosamani, Scientist C (LS) extended a warm vote of thanks. 9 participants attended the programme. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 50.

Topic of Lecture / Presentation	Name of the Experts
INFLIBNET Activities and Services	Mr. Manoj Kumar, Scientist D (CS), INFLIBNET Centre
Research Impact Evaluation: Different Aspects	Dr. Jagdish Arora, Director, INFLIBNET Centre
Bibliometrics/Scientometrics Indicators for Assessing Research Altmetrics: An Overview	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre
Altmetrics: An Overview	Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre
R Basics + Altmetrics Package: Installation and Practical	Mr. Hitesh Solanki, Scientist B (CS) & Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre
Researcher Tools: Altmetrics Explorer for Institutions, Altmetrics Bookmarklet & Badges	Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre
Webometric Analyst 2.0: Installation and Practice	Mr. Hitesh Solanki, Scientist B (CS) & Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre
Altmetrics and Altmetric.com (Presentation over Skype)	Ms. Stacy Konkiel, Director of Research & Education, Altmetric.com
Webometric Analyst 2.0: Retrieval of Altmetrics Data from Altmetric.com	Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre
Webometric Analyst 2.0: Creating Twitter Conversation Networks	Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre
Retrieval of Mendeley Readership Statistics from Mendeley	Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre

Table 50: Presentations and Lectures during National Workshop on Research Impact Evaluation and Altmetrics

5.13. Three-day National Workshop on e-Content and e-Learning using MOOCs, INFLIBNET Centre, Gandhinagar, 1st-3rd November, 2017

The INFLIBNET Centre organized National Workshop on e-Content and e-Learning using MOOCs at INFLIBNET Centre, Gandhinagar from 1st to 3rd November, 2017. Mr. Abhishek Kumar, Scientist C (CS) and Mr. H. G. Hosamani, Scientist C (LS), INFLIBNET Centre coordinated the programme. Mr. Manoj Kumar K., Scientist D (CS), INFLIBNET Centre inaugurated the Workshop. The aim of the Workshop was to provide exhaustive information on e-learning, electronic content creation, its hosting using Moodle as LMS and MOOCs along with "hands-on" practice. Mr. H. G. Hosamani, Scientist C (CS) extended a warm vote of thanks. 11 participants attended the programme. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 51.

Topic of Lecture / Presentation	Name of the Experts
INFLIBNET Activities and Services	Mr. Manoj Kumar K, Scientist D (CS)
e-Learning: Introduction, projects and Government Initiatives	Mr. Abhishek Kumar, Scientist C (CS)
Introduction to MOOCs and its Platforms: Features and functionalities	Mr. Kannan P, Scientist C (CS)
Course Creation (content library, assignment and assessment)	Mr. Abhishek Kumar and Mr. Kannan P Scientist C (CS)
Faculty profile enrichment with e-content using VIVO	Mr. Hitesh Solanki, Scientist B (CS)
Admin Module of MOOC (Demonstration)	Mr. Kannan P., Scientist C (CS)

Table 51: Presentations and Lectures during National Workshop on e-Content and e-Learning using MOOCs

5.14. Five-day Advanced Training Programme on Bibliometric and Research Output Analysis, INFLIBNET Centre, Gandhinagar, 20th– 24th November, 2017

The INFLIBNET Centre organized Advanced Training Programme on Bibliometric and Research Output Analysis at INFLIBNET Centre, Gandhinagar from 20th to 24th November, 2017. Dr. Jagdish Arora, Director, INFLIBNET Centre inaugurated the programme. The aim of the training programme was to give overview of bibliometric methods, bibliometric data sources, data processing and performance indicators related to bibliometric analysis and mapping. 20 participants including IT professionals, LIS professionals and research scholars attended the programme. Mr. H. G. Hosamani, Scientist C (LS) extended a warm vote of thanks. Mrs. Deepti Pandey, Project Officer (LS), Ms. Anita Kushwaha, Mr. Sudam Sahu, Project Associate (LS), Ms. Shivani Thakur and Ms. Vichitra Adidravida, Project Assistants (LS), INFLIBNET Centre were resource persons in practical sessions during the training programme. Details of lectures delivered and presentations made by experts during the training programme are given below in Table 52.

Topic of Lecture / Presentation	Name of Expert and Institution
INFLIBNET: Activities and service	Mr. Manoj Kumar K., Scientist D (CS), INFLIBNET Centre
Research Impact Metrics: Calculation and Context	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre
Web of Science and InCites	Ms. Subhasree A. Nag, Solution Consultant, Scientific and Academic Research, Clarivate Analytics
Scopus & SciVal	Ms. Tahseen Afroz, Scopus
Advanced Search Techniques of Scopus	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre
Co-authorship Analysis using Bibexcel	Mr. Hitesh Kumar, Scientist B (CS), INFLIBNET Centre
Co-Citation Analysis using Bibexcel	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre
Bibliographic Coupling and H index using Bibexcel	Mr. Hitesh Kumar, Scientist B (CS), INFLIBNET Centre
Advanced Network and Cluster Analysis using Bibexcel	Mr. Hitesh Kumar, Scientist B (CS), INFLIBNET Centre
Network Analysis in Bibexcel using Alternative Data Sources	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre
Bibliometric and Citation Analysis using Sci2	Mr. Hitesh Kumar, Scientist B (CS), INFLIBNET Centre
Network Analysis and Visualization using R	Mr. Hitesh Kumar, Scientist B (CS), INFLIBNET Centre
Advanced Citation Analysis and Visualization using VOS Viewer (on Skype)	Mr. Ludo Waltman, Senior Researcher and Deputy Director, Centre for Science and Technology Studies (CWTS), Leiden University
Advanced Citation Analysis and Visualization using VOS Viewer ("Hands-on" Practice)	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre
Beyond Citation Analysis: Altmetrics	Mr. Hitesh Kumar, Scientist B (CS) & Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre
Academic Identity with Reference to Orchid ID	Mr. P. Kannan, Scientist C (LS), INFLIBNET Centre
Rankings of University Research Performance	Mr. Abhishek Kumar, Scientist C (CS), INFLIBNET Centre

Table 52: Presentations and Lectures during Five-day Advanced Training Programme on Bibliometric and Research Output Analysis

5.15. Five-Day National Workshop on Capacity Building Programme on ICT for LIS (Hindi), INFLIBNET Centre, Gandhinagar, 27th November – 1st December, 2017

एलआईएस के लिए आईसीटी पर क्षमता निर्माण कार्यक्रम पर पांच दिवसीय राष्ट्रीय कार्यशाला (हिंदी), इनफ्लिबनेट केन्द्र, गांधीनगर, २७ नवंबर - १ दिसंबर, २०१७

Five-day National Workshop on Capacity Building Programme on ICT for LIS (Hindi) was organized at INFLIBNET Centre, Gandhinagar from 27th November – 1st December, 2017. Mrs. Suboohi Siddiqui, STO (LS) coordinated the Workshop. Mrs. Siddiqui welcomed the participants and gave an overview of the programme. Dr. Jagdish Arora, Director, INFLIBNET Centre inaugurated the Workshop. Mr. H.G. Hosamani extended a warm vote of thanks at the end of the Workshop. The aim of the National Workshop was to contribute towards overall development of library personnel through training programmes and workshops, to get the staff trained in accessing online resources and other ICT applications in libraries. 6 participants attended the programme. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 53.

एलआईएस के लिए आईसीटी पर पांच दिवसीय क्षमता निर्माण कार्यक्रम का आयोजन २७ नवंबर से १ दिसंबर, २०१७ तक इनफ्लिबनेट केंद्र, गांधीनगर में किया गया। श्रीमती सुबूही सिद्दीकी, वैज्ञानिक एवं तकनीकी अधिकारी (एल एस) ने कार्यशाला का समन्वय किया। उन्होंने प्रतिभागियों का स्वागत किया और इस कार्यक्रम का अवलोकन दिया। डॉ. जगदीश अरोड़ा, निदेशक, इनफ्लिबनेट केंद्र ने कार्यशाला का उद्घाटन किया। श्री एच.जी. होसामनी ने कार्यशाला के अंत में सबको धन्यवाद दिया। प्रशिक्षण का उद्देश्य प्रशिक्षण/कार्यशालाओं के माध्यम से पुस्तकालयकर्मियों के समग्र विकास के लिए योगदान करना, कर्मचारियों को पुस्तकालयों में ऑनलाइन संसाधनों और अन्य आईसीटी अनुप्रयोगों तक पहुंचने में प्रशिक्षण प्राप्त करना। 6 प्रतिभागियों ने कार्यक्रम में भाग लिया। राष्ट्रीय कार्यशाला के दौरान विशेषज्ञों द्वारा दिए गए व्याख्यान और प्रस्तुतिकरणों का विवरण नीचे तालिका 53 में दिया गया है।

विषय (Topics)	विशेषज्ञों का नाम (Name of Experts)
इनफ्लिबनेट : क्रियाएँ और सेवाएं INFLIBNET: Activities and services	श्री अशोक कुमार राय, वैज्ञानिक-डी (सी एस) Mr. Ashok Kumar Rai, Scientist D (CS)
लाइब्रेरी स्वचालन सोल और कोहा द्वारा Library automation using SOUL and KOHA	श्री एच जी होसामनी, वैज्ञानिक-सी (एल एस) Mr. H G Hosamani, Scientist C (LS)
सोल प्रशासन मॉड्यूल SOUL Administration module	श्री विजयकुमार श्रीमाली, वैज्ञानिक एवं तकनीकी सहायक (सी एस) Mr. Vijaykumar Shrimali, STA (CS)
लाइब्रेरी स्वचालन सोल: प्रसूचीकरण मॉड्यूल Library automation SOUL: Cataloguing module	श्री दिनेश रंजन प्रधान, वैज्ञानिक-बी (एल एस) Mr. Dinesh Ranjan Pradhan, Scientist B (LS)

विषय (Topics)	विशेषज्ञों का नाम (Name of Experts)
लाइब्रेरी स्टैंडर्ड्स और डब्लिन कोर का परिचय Introduction to Library Standards and Dublin Core	श्रीमती वैशाली शाह, वैज्ञानिक-बी (एल एस) Mrs. Vaishali Shah, Scientist B (LS)
लाइब्रेरी स्वचालन: सोल परिसंचरण मॉड्यूल Library automation SOUL: Circulation module	श्री दिव्यकांत वाघेला, वैज्ञानिक-बी (सी एस) Mr. Divyakant Vaghela, Scientist B (CS)
लाइब्रेरी स्वचालन कोहा: स्थापना Library automation KOHA: Installation	श्री विजयकुमार श्रीमाली, वैज्ञानिक एवं तकनीकी सहायक (सी एस) Mr. Vijaykumar Shrimali, STA (CS)
लाइब्रेरी स्वचालन कोहा: प्रसूचीकरण मॉड्यूल Library automation KOHA: Cataloguing module	डॉ. मितेशकुमार पंड्या, वैज्ञानिक-बी (एल एस) Dr. Miteshkumar Pandya, Scientist B (LS)
डीस्पेस डिजिटल लाइब्रेरी सॉफ्टवेयर का उपयोग कर आई आर का निर्माण Creation of IR using D Space digital library software	श्री स्वप्निल पटेल, वैज्ञानिक-बी (सी एस) Mr. Swapnil Patel, Scientist B (CS)
ई लर्निंग और MOOCs: एक परिचय E learning and MOOCs :An introduction	श्री अभिषेक कुमार, वैज्ञानिक-सी (सी एस) Mr. Abhishek Kumar, Scientist C (CS)
मुक्त स्रोत सॉफ्टवेयर और उपकरण तथा एंटी प्लागिअरिज्म सॉफ्टवेयर Open source software, tools and anti-plagiarism software	श्रीमती सुबूही सिद्दीकी, वैज्ञानिक एवं तकनीकी अधिकारी (एल एस) Mrs. Suboohi Siddiqui, STO (LS)
पुस्तकालयों के लिए नए उभरते विचार New emerging trends for libraries	श्री राजा वी, वैज्ञानिक-बी (सी एस) Mr. Raja V., Scientist B (CS)
ई-स्रोत और खोज उपकरणों का परिचय Introduction to e-resources and discovery tools	श्री पल्लव प्रधान, वैज्ञानिक-बी (एल एस) Mr. Pallab Pradhan, Scientist B (LS)
पुस्तकालयों के लिए वेब 2.0 उपकरण और अन्य सोशल मीडिया का उपयोग Use of social media and other web 2.0 tools for libraries	सुश्री कृति त्रिवेदी, वैज्ञानिक-बी (एल एस) Mr. Kruti Trivedi, Scientist B (LS)
यूनिकोड द्वारा भारतीय लिपियों का बहुभाषीय सूचना प्रतिनिधित्व Representation of multilingual information with unicode for Indic Script	श्री दिव्यकांत वाघेला, वैज्ञानिक-बी (सी एस) Mr. Divyakant Vaghela, Scientist B (CS)

Table 53: Presentations and Lectures during National Workshop on Capacity Building Programme on ICT for LIS (Hindi)

5.16. Three-day National Workshop on Libraries on Cloud, INFLIBNET Centre, Gandhinagar, 6th -8th December, 2017

The INFLIBNET Centre organized National Workshop on Libraries on Cloud at INFLIBNET Centre, Gandhinagar from 6th to 8th December, 2017. Mr. Manoj Kumar K., Scientist D (CS), Mr. Abhishek Kumar, Scientist C (CS) and Mr. Raja V, Scientist B (CS) coordinated the programme. Dr. Jagdish Arora, Director inaugurated the programme. The aim of the Workshop was to cover the fundamentals, installation of ILMS and repository on Cloud. Mr. H.G. Hosamani, Scientist C (LS) extended a warm vote of thanks. 8 participants attended the programme. Details of lectures delivered by experts of INFLIBNET Centre during the National Workshop were as follows: Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 54.

Topic of Lecture / Presentation	Name of Expert and Institution
INFLIBNET Activities and Services	Mr. Abhishek Kumar, Scientist C (CS)
Introduction to Cloud	Mr. Raja V, Scientist B (CS)
Virtualization and Linux Basic Commands	Mr. Hitesh Solanki, Scientist B (CS)
Public Cloud: An Overview and AWS Features and Demonstration	Mr. Raja V, Scientist B (CS)
Understanding Cloud and Library CMS, ILMS, IRIS and IR	Mr. Abhishek Kumar, Scientist C (CS)
"Hands-on" Session: Content Management System Creation on Cloud (Joomla)	Dr. Miteshkumar Pandya, Scientist B (LS)
"Hands-on" Session: Institutional Repository on Cloud (Eprints)	Mr. Raja V, Scientist B (CS) & Team
"Hands-on" Session: ILMS-Integrated Library Management Systems on Cloud (e.g. KOHA)	Mr. Divyakant Vaghela, Scientist B (CS)
"Hands-on" Session: Maintenance, Backup and Restore of VM	Mr. Swapnil Patel, Scientist B (CS)

Table 54: Presentations and Lectures during National Workshop on Libraries on Cloud

5.17. Five-day National Workshop on Building Digital Libraries Using DSpace, Dr. Ram Manohar Lohiya National Law University, Lucknow, 18th – 22nd December, 2017

Five-day National Workshop on Building Digital Libraries Using DSpace was organised by Dr. Ram Manohar Lohiya National Law University in collaboration with INFLIBNET Centre, Gandhinagar at Madhu Limaye Library, Dr. Ram Manohar Lohiya National Law University, Lucknow from 18th to 22nd December, 2017. Dr. Maneesh Kumar Bajpai, Librarian-In-Charge coordinated the Workshop and welcomed the guests and participants. Prof. (Dr.) Sanjay Singh, Acting Vice-Chancellor inaugurated the Workshop in presence of Mr. Yashvant Rao, IAS, Registrar, Dr. Maneesh Kumar Bajpai, Librarian-In-Charge, Dr. Ram Manohar Lohiya National Law University, Dr. M. K. Singh, Librarian, Indian

Institute of Management, Lucknow and Prof. (Dr.) M. P. Singh, Head, DLIS, BabasahebBhimraoAmbedkar University, Lucknow. Dr. M. K. Singh, Librarian, Indian Institute of Management, Lucknow delivered keynote address. Prof. (Dr.) M. P. Singh, Head, Dr. S. K. Sonkar, Assistant Professor, DLIS, BBAU, Lucknow, Mr. Swapnil Patel, Scientist B (CS), INFLIBNET Centre, Gandhinagar, Dr. Nabi Hasan, Librarian, Aligarh Muslim University, Aligarh, Dr. Sanjay Kataria, Librarian, Bennett University, Noida and Dr. Vinit Kumar, Assistant Professor, DLIS, Central University of Gujarat, Gandhinagar were the resource persons. Theoretical lectures were followed by "hands-on" practice on various module of DSpace. All the practical sessions of the Workshop involved intensive discussions and interactions on various aspects of DSpace between participants and the resource persons. 52 participants including LIS professionals and students from National Law Universities, IIMs, IITs, Universities, Kendriya Vidyalayas and other institutions participated in the Workshop.

During the valedictory function, Dr. Jyoti Mishra, Deputy Librarian, University of Lucknow, Lucknow addressed the gathering. Prof. (Dr.) Sanjay Singh, Acting Vice-Chancellor distributed certificates of participation to all the participants. Prof. (Dr.) K. L. Mahawar, DLIS, BabasahebBhimraoAmbedkar University, Lucknow was Guest of Honour. Dr. Maneesh Kumar Bajpai extended a warm vote of thanks at the end of the programme.

5.18. Three-day National Workshop on Organizing Research with Reference Management Tools, INFLIBNET Centre, Gandhinagar, 27th – 29th December, 2017

The INFLIBNET Centre organized National Workshop on Organizing Research with Reference Management Tools at INFLIBNET Centre, Gandhinagar from 23rd to 25th October 2017. Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre coordinated the Workshop. Mr. Manoj Kumar K., Scientist D (CS), INFLIBNET Centre inaugurated the Workshop. The aim of the National Workshop was to give an overview of reference management tools like Zotero, Mendeley and EndNote and their usefulness in organizing research. Mrs. Hema Cholin, STO (LS) extended a warm vote of thanks. 9 participants attended the programme. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 55.

Topic of Lecture / Presentation	Name of the Experts
Theory Session on Introduction to Research & Ethics, Research Writing and Referencing/Citations Styles Guide	Dr. Nilanjan Roy, Director, ARIBAS, Anand
INFLIBNET Activities and Services	Mr. Abhishek Kumar, Scientist C (CS), INFLIBNET Centre
Reference Management Tools	Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre
Research and Academic Identities	Mr. Kannan P, Scientist C (CS), INFLIBNET Centre

Topic of Lecture / Presentation	Name of the Experts
Zotero	Mr. Mallikarjun Dora, Professional Assistant, IIM Ahmedabad
Zotero ("Hands-on")	Mr. Mallikarjun Dora and Mr. Pallab P
EndNote	Ms.SubhashreeNegi, Clarivate Analytics
EndNote ("Hands-on")	Ms.Subhashree Negiand Mr. Pallab P
Mendeley	Ms.Shubhra Dutta, Elsevier
Mendeley ("Hands-on")	Ms.Shubhra Dutta and Mr. Pallab Pradhan
Comparison between Reference Management Tools	Mr. Pallab Pradhan, Scientist B (LS), INFLIBNET Centre
Referencing and Plagiarism (Demo on Use of URKUND Anti-Plagiarism software)	Mr. Manoj Kumar K, Scientist D (CS), INFLIBNET Centre

Table 55: Presentations and Lectures during National Workshop on Organizing Research with Reference Management Tools

5.19. Three-day National Workshop on KOHA: Installation and Operations, INFLIBNET Centre, Gandhinagar, 22nd -24th January, 2018

The INFLIBNET Centre organised National Workshop on KOHA: Installation and Operations at INFLIBNET Centre, Gandhinagar from 22nd to 24th January, 2018. Mr. Yatrik Patel, Scientist D (CS) and Mr. Divyakant Vaghela, Scientist B (CS), INFLIBNET Centre coordinated the Workshop. Dr. Jagdish Arora, Director, INFLIBNET Centre inaugurated the Workshop. The aim of the Workshop was to introduce open source operating system and open source software to the LIS professionals and to provide extensive hands-on training to the participants as well as to enable them to work independently. Mr. H. G. Hosamani, Scientist C (CS) extended a warm vote of thanks. 13 participants attended the programme. Mr. Divyakant Vaghela, Scientist B (CS), Mr. Vijay Shrimali, STA (CS) and Mr. Hiten Parmar, Project Assistant (LS) were resource person during hands-on practice. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 56.

Topic of Lecture / Presentation	Name of the Experts
INFLIBNET Activities and Services	Mr. Manoj Kumar K, Scientist D (CS)
Open Source Tools for Libraries	Mr. Hitesh Solanki, Scientist B (CS)
KOHA: Administration Module	Mr. Vijay Shrimali, STA (CS)
KOHA: Acquisition and Serials Control Modules	Dr. Mitesh Pandya, ScientistB (LS)
KOHA: Catalogue and OPAC Modules	Mr. Pallab Pradhan, Scientist B (LS)
KOHA: Circulation Module	Mr. H. G. Hosamani, Scientist C (LS)
KOHA Installation in Ubuntu 16.04 LTS	Mr. Divyakant Vaghela, Scientist B (CS)

Table 56: Presentations and Lectures during National Workshop on KOHA: Installation and Operations

5.20. One-day Orientation Workshop for SWAYAM Coordinators of Universities, AICTE, New Delhi, 2nd February, 2018

The INFLIBNET Centre coordinated the UGC-organised one-day Orientation Workshop for SWAYAM Coordinators of Universities at AICTE, New Delhi on 2nd February, 2018. The main objective of the Workshop was to sensitize and train SWAYAM coordinators on the roles and responsibilities of the University and its SWAYAM coordinators and also to increase the reach out of SWAYAM Course, as a path-breaking initiative of the Government of India aimed at providing quality education to large number of students pursuing higher education in universities and colleges. Around 150 universities from all around the country attended the Workshop.



Fig. 63: Dr. Jagdish Arora, Director, INFLIBNET Centre; Dr. (Mrs.) Pankaj Mittal, Additional Secretary, UGC; Prof. Dharendra Pal Singh, Chairman, UGC; Prof Anil D Sahasrabudhe, Chairman, AICTE and Dr. JB Nadda, Director, CEC (Left to Right)

Prof. Dharendra Pal Singh, Chairman, University Grants Commission inaugurated the Workshop in the august presence of Prof Anil D Sahasrabudhe, Chairman, AICTE, New Delhi, Dr. Jagdish Arora, Director, INFLIBNET Centre, Gandhinagar, Dr. J.B. Nadda, Director, CEC, New Delhi and Dr (Mrs) Pankaj Mittal, Additional Secretary, UGC. Dr (Mrs) Pankaj Mittal, Additional Secretary, UGC delivered welcome address. In her welcome address, she gave a brief overview of the Government of India's NME-ICT project under which UGC has developed 18,000 modules for PG courses that are hosted on e-PG Pathshala. Further, 60 MOOCs courses, developed by the UGC, are being offered through SWAYAM platform. UGC has also issued Regulations that allows students to earn credits up to 20% through MOOCs.

Prof Anil D Sahasrabudhe, Chairman, AICTE, in his address, highlighted the importance of SWAYAM platform managed by AICTE. He informed that 8 National Coordinators are offering 989 courses and current enrolment of learners on SWAYAM platform is 18,46,098. He mentioned that the SWAYAM platform can effectively serve two purposes, i.e. on the one hand, it can be used by students to learn, and on the other hand, it can enhance the pedagogy and skills of the teachers.

Prof. Dharendra Pal Singh, Chairman, UGC, in his Inaugural address, highlighted the importance of SWAYAM and SWAYAM Prabha projects of UGC/MHRD. He requested and exhorted the SWAYAM coordinators to join the UGC in disseminating the information about SWAYAM courses and 24*7 DTH Channels of SWAYAM Prabha in universities and affiliating colleges to ensure that more and more students can avail the benefit of MOOCs.

The Following four presentations were made on the topics mentioned below during the workshop:

- ▶▶ e-PG Pathshala, MOOCs, UGC Regulations and its Adoption, by Dr (Mrs) Pankaj Mittal, Additional Secretary, UGC;
- ▶▶ Sharing Experiences of Hosting MOOCs Course on Swayam Platform, by Dr. Jagdish Arora, Director, INFLIBNET Centre, Gandhinagar;
- ▶▶ Roles, Responsibilities and Steps to be Taken for Promoting the MOOCs on SWAYAM by Dr. Diksha Rajput, Publication Officer, UGC, New Delhi; and
- ▶▶ SWAYAM Prabha, by Abhishek Kumar, Scientist C (CS), INFLIBNET Centre, Gandhinagar.

The dedicated 24*7 UGC MOOCs Portal (<http://ugcmoocs.inflibnet.ac.in/>) for SWAYAM Coordinators and Brochure on Higher Education Statistics 2018 was launched by Prof. Dharendra Pal Singh, Chairman, UGC, New Delhi. Prof Anil D Sahasrabudhe, Chairman, AICTE launched Brochure on SWAYAM.

5.21. Three-day National Workshop on Open Source Software (Koha and DSpace): Adoption and implementations, Sikkim University, Gangtok, 8th-10th March, 2018

Three-day National Workshop on Open Source Software (Koha and DSpace): Adoption and Implementations was organised by Teesta-Indus Central Library, Sikkim University in collaboration with INFLIBNET Centre, Gandhinagar at Dept. of Computer Applications, Sikkim University, Gangtok from 8th to 10th March, 2018. Ms. Sarbada Pradhan, University Librarian coordinated the Workshop and welcomed the guests and participants. She also highlighted the objectives of Workshop. Prof J.P. Tamang, Vice-Chancellor, Sikkim University inaugurated the Workshop in presence of Mr. T. K. Kaul, Registrar, Mr. Debasish Pal, Finance Officer, Sikkim University, Mr. Swapnil Patel, Scientist B (CS) and Dr. Miteshkumar Pandya, Scientist B (LS), INFLIBNET Centre. In his inaugural address, Prof. Tamang emphasized the need for organizing such academic activities for

professional development of librarians working in different libraries of Sikkim. He further stated that library professionals should learn and adopt new technologies through the Workshops and training programmes. Mr. Swapnil Patel, Scientist B (CS) and Dr. Miteshkumar Pandya, Scientist B (LS) from INFLIBNET Centre, Gandhinagar, Mr. Parthasarathi Mukhopadhyay, Associate Professor, Deptt. of Library and Information Science, Kalyani University and Mr. Vinod Kumar Mishra, Assistant Librarian, NIT Rourkela were resource persons during the Workshop. Different modules of Koha and DSpace were discussed with practical demonstration. More than 25 library professionals working in different libraries of Sikkim attended the programme.

5.22. Three-day National Workshop on Ethical Issues and Use of Anti-Plagiarism Software for Research Integrity, INFLIBNET Centre, Gandhinagar, 26th-28th March, 2018

Three-day National Workshop on Ethical Issues and Use of Anti-Plagiarism Software for Research Integrity was organized at INFLIBNET Centre, Gandhinagar from 26th to 28th March, 2018. Mr. Manoj Kumar K, Scientist D (CS) coordinated the Workshop. He welcomed the participants and gave an overview of the programme. Dr. Himanshu Pandya, Vice-Chancellor, Gujarat University, Ahmedabad inaugurated the Workshop in presence of Dr. Nilanjan Roy, Director, ARIBAS, Anand, Dr. Savita R. Gandhi, Head, Rollwala Computer Centre, Gujarat University, Ahmedabad and Dr. Jagdish Arora, Director, INFLIBNET Centre, Gandhinagar. In his Inaugural address, Dr. Pandya opined that researchers are not addressing the real problems encountering in the society. Specific problems as faced by the farmers and common man in various regions in their day-to-day life, should be preferred topics of research. Mr. H G Hosamani, Scientist C (LS) extended a warm vote of thanks at the end of the inaugural session. 30 participants attended the programme. Details of lectures delivered and presentations made by experts during the National Workshop are given below in Table 57.

Topic of Lecture / Presentation	Name of the Expert
Ethics Issues in Research	Dr. Nilanjan Roy, Director, ARIBAS, Anand
Research Methodology and Planning of Research	Dr. Savita R. Gandhi, HOD, Rollwala Computer Centre, Gujarat University
Plagiarism & Use of Anti-Plagiarism Tools for Quality of Research	Mr. Manoj Kumar K, Scientist D (CS), INFLIBNET Centre
Qualitative Academic Writing and Publications	Dr. Jagdish Joshi, Director, UGC-Human Resource Development Centre, Gujarat University
Research and Academic Identities	Mr. Siva Shankar K, Scientist B (LS), INFLIBNET Centre
Draft Policy on Plagiarism by UGC	Mr. Manoj Kumar K, Scientist D (CS), INFLIBNET Centre
Statistical Methods for Research Data Analysis using R language	Mr. Hitesh Solanki, Scientist B(CS), INFLIBNET Centre

Topic of Lecture / Presentation	Name of the Expert
Use of Reference Management Tools and Writing Research Report	Dr. Miteshkumar Pandya, Scientist B (LS), INFLIBNET Centre
Assessing and Evaluating Research Performance using Bibliometric Indicators	Ms. Kruti Trivedi, Scientist B (LS), INFLIBNET Centre

Table 57: Presentations and Lectures during National Workshop on Ethical Issues and Use of Anti-Plagiarism Software for Research Integrity

5.23. Five-day Workshop-Cum-Training Programme on Application of Cloud Technologies in Library and Information Centre, Assam University, Silchar, 26th- 30th March, 2018

Five-day National Workshop-Cum-Training Programme on Application of Cloud Technologies in Library and Information Centre was organised by Department of Library Science and Rabindra Library, Assam University in collaboration with INFLIBNET Centre, Gandhinagar at Assam University, Silchar from 26th to 30th March, 2018. Prof. Manoj Kumar Sinha, Convenor of Workshop-cum-training programme delivered welcome address and pointed the importance of cloud technology in library and information science. Prof. Dilip Chandra Nath, Hon'ble Vice Chancellor, Assam University inaugurated the Workshop in presence of Prof. Sumanash Dutta, Dean, Deshbandhu Chittaranjan School of Legal Studies. Prof. G. P. Pandey, Dean, Abanindranath Tagore School of Creative Arts and Communication Studies, Prof. Manoj Kumar Sinha, Dean, Swami Vivekananda School of Library Sciences, Dr. A. K. Sharma, Librarian, Rabindra Library, Dr. Mukut Sarmah, Dr. Nabin Chandra Dey, Mr. Rajesh Rangappa Aldarhi, Assistant Professor, Deptt. of Library and Information Science, Assam University and Mr. Raja V, Scientist B (CS), INFLIBNET Centre. The main objective of the Workshop-cum-Training Programme was to create awareness, encourage implementation and assist professionals to understand cloud technology and its various applications and services in library and information centres. Mr. Rajesh Rangappa Aldarhi, Coordinator extended a warm vote of thanks at the end of the programme. 38 participants attended the programme. Details of lectures delivered and presentations made by experts during the Workshop-Cum-Training Programme are given below in Table 58.

Topic of Lecture / Presentation	Name of the Expert
Introduction to Cloud Technology: Application of Cloud Technology in LISc-Theory	Dr. Nabin Ch. Dey, Asst. Professor, DLISc, Assam University
Introduction to Popular Cloud Services and VPN Technology	Shri Anand K. Singha, Networking Engineer, Assam University
Administration and Management of One Cloud Service Platform- Demo and Hands-on Session	Mr. Raja V, Scientist B (CS), INFLIBNET Centre
Installation, Customization of Joomla App Service on Cloud Platform-Demo	Mr. Raja V, Scientist B (CS) and Mr. Rajesh R A, Assistant Professor
Introduction to Content Management Software and Comparison-Theory	Prof. Manoj Kumar Sinha, Head and Dean, DLISc, Assam University

Topic of Lecture / Presentation	Name of the Expert
"Hands-on" Session-Practice	Mr. Rajesh R Aldarhi, Assistant Professor, DLISc, Assam University
Introduction to Institutional Repository and Comparison between DSpace and Eprints	Dr. Mukut Sarmah, Assistant Professor, DLISc, Assam University
Dspace Operational Management – Demo	Mr. Amit Uraon, Assistant Librarian, Assam University
Installation, Customization of Dspace in (linux) on Cloud platform-Demo	Dr. Gautam Kumar Sarma, Assistant Librarian, KK Handiqui State Open University, Guwahati
"Hands-on" Session	Dr. Gautam Kumar Sarma and Mr. Amit Uraon
Introduction Koha and SOUL	Dr. A. K. Sharma, Librarian, Assam University
Installation, Customization, Backup and Restoration of Koha in Debian (linux) on Cloud Platform-Demo and "Hands-on" Session	Mr. Indranil Das Gupta
Application of Open Source Software's in LISc with Special Reference to Cloud Technology	Dr. M. Eqbal, Dy. Librarian, Tezpur University
Operational Management of Koha-Demo and Hands on session	Dr. ApurbaJyotiMajumder, Assistant Librarian, Assam University

Table 58: Presentations and Lectures during Workshop-Cum-Training Programme on Application of Cloud Technologies in Library and Information Centre

6. User Awareness Programme on Shodhganga and Anti-Plagiarism Software

6.1. User Awareness Programme on Shodhganga and URKUND: a Plagiarism Detection Tool, Jamia Millia Islamia University, New Delhi, 25th August, 2017

One-day User Awareness Programme on Shodhganga and URKUND: a Plagiarism Detection Tool was organised by Jamia Millia Islamia in collaboration with INFLIBNET Centre, Gandhinagar at Jamia Millia Islamia, New Delhi on 25th August, 2017. Dr. H. J. Abidi, University Librarian coordinated the programme and welcomed the guests and participants. Mr. A. P. Siddiqui, Registrar inaugurated the programme. In his inaugural address, Mr. Siddiqui spoke about the need of originality and collaboration in research activities. He further emphasised on the quality of research to improve the visibility of the university in academic world. Prof. Sushant G Ghosh, Joint Director (Research) was Guest of Honour. He elaborated on the efforts made by the Jamia Millia Islamia to promote research and development in the university. He spoke about h-Index of university, research fellowships, GIAN Programme and contribution of university in e-PG Pathshala programme of the UGC. Dr. Jagdish Arora, Director along with Mr. Manoj Kumar K, Scientist D (CS), INFLIBNET Centre were felicitated by Dr. Zakir Husain Library for promotion of digital initiative in higher education and Indian ETDs respectively.

Dr. Jagdish Arora discussed about the research as primary objective of any university. He appreciated the efforts of library in conducting orientation programmes for promotion of e-resources. Mr. Manoj Kumar K, Scientist D (CS) made detailed presentation on Shodhganga and urged students to use it in their literature survey for research. Mr. Manoj Kumar also discussed briefly about academic ethics and how to detect and avoid plagiarism in research. He further elaborated upon open source software for similarity check and plagiarism detection.

Dr. R.K. Chadha, Former Additional Secretary, Parliament of India, New Delhi, in his address to participants, expressed his happiness for overwhelming response of researcher for this programme. Dr. H.J. Abidi, University Librarian spoke about various resources and services that the university library offers to its academic community. He stated that university has about 3500 Ph.D theses and 550 out of them have been digitised and uploaded on Shodhganga. He also stated that library has also built its own IDR (Institutional Digital Repository) and have uploaded theses, rare books, manuscripts and other digital content. Around 180 faculty members and research scholars attended the programme. Dr. H.J. Abidi, University Librarian extended a warm vote of thanks to authorities of the University and to the INFLIBNET Centre.

6.2. One-day User Awareness Programme on Shodhganga and URKUND: a Plagiarism Detection Tool, University of Allahabad, Allahabad, 12th January, 2018

One-day User Awareness Programme on Shodhganga and URKUND: a Plagiarism Detection Tool was organised by University of Allahabad in collaboration with INFLIBNET Centre, Gandhinagar at Central Library, University of Allahabad, Allahabad on 12th January, 2018. Dr. B.K. Singh, University Librarian coordinated the programme and welcomed the participants and guests. Prof. R. L. Hangloo, Hon'ble Vice Chancellor inaugurated the programme. He highlighted the role of research in the national development and higher education and emphasised that such type of events provide new energy in research and academic environment of the University. Mr. Manoj Kumar K, Scientist D (CS), INFLIBNET Centre was the resource person. He stated that as per UGC guidelines, submission of soft copies of theses is mandatory on Shodhganga. He explained how to search and download theses that are available on Shodhganga for research and learning. He also highlighted various tools that are used for research and for plagiarism detection. He also demonstrated URKUND: a plagiarism detection tool and pointed out its salient features and explained how to check plagiarism using URKUND with suitable examples. More than 700 faculty members and research scholars participated in the programme. Dr. B.K. Singh, University Librarian extended a warm vote of thanks at the end of the programme.

7. E-Content Development under e-PG Pathshala

7.1. Workshop-cum-Meeting for Stakeholders of the Paper 'Food Technology', INFLIBNET Centre, Gandhinagar, 16th -17th December, 2017

The INFLIBNET Centre organised Workshop-cum-Meeting for the stakeholders of the paper "Food Technology" at INFLIBNET Centre, Gandhinagar from 16th to 17th December, 2017. Principal Investigator and Paper Coordinators of "Food Technology" attended Workshop-cum-Meeting to review remaining work that has to be done for "Food Technology". Prof. Atanu Jana, Sheth M.C. College of Dairy Science, AAU, Anand, paper coordinator for Dairy Technology, who could not attend the Workshop-cum-meeting, visited INFLIBNET Centre on 23rd December, 2017 and recorded his pending modules at BISAG, Gandhinagar.

8. Attachment Training Programme for Practicing Library Professionals, INFLIBNET Centre, Gandhinagar

The Centre organized Attachment Training Programmes (ATP) at INFLIBNET Centre, Gandhinagar where-in working library professionals from universities/institutions availed the training from experienced INFLIBNET staff. The objective of ATP is to train LIS professionals on ICT applications in libraries at various levels from basic to advance. Mr. Bhushan N Dayawate, Former Student, Sant Gadage Baba Amaravati University, Amravati took the benefit of ATP at second level during 3rd to 7th July, 2017.

9. The 2017 Higher Education Forum, Elsevier Science, New Delhi, 31st October, 2017

The 2017 Higher Education Forum was organized by the INFLIBNET Centre in collaboration with the Elsevier Science at the Lalit Hotel, New Delhi on 31st October, 2017. The Forum serves as a platform for key stakeholders from the higher education community to gather and discuss all important aspects of higher education and research in India. The agenda for 2017 Higher Education Forum was built around the objective of "Research Leading the Way in Economic Development". The Forum commenced with the guest address from Dr. Jagdish Arora, Director INFLIBNET. Dr. Arora emphasized on role of ESS Consortium as a collaborative platform and developing it as a sustainable model. Mr. Vinod Kaw, Regional Sales Manager, Elsevier highlighted the need for maximum outreach of information and how science needs to be used as a tool to shape-up the society.

Dr. Youngsuk "YS" Chi, Chairman, Elsevier shared an exciting view of how strategic research planning can lead to economic development through inspiring example of Mr. Sumant Sharma of Renew Energy. He highlighted the need to foster collaboration between academia, industry and policymakers to maximize the economic effect of research. Dr. Chi mentioned that a roadmap should be created through focused research into high impact areas employing evidence-based assessment to advent into the 4th industrial revolution.

Prof. Euiho Suh, Associate Vice President, DGIST, Professor & Chair Emeritus, POSTECH presented the concept of VSS to improve university rankings. He emphasized that influential research is the need of the day and the time is now or never. Dr. Alok Nath De, Corp VP and CTO, Samsung R&D India shared a thought-provoking presentation on "Learnings in 21st Century Institute". He accentuated the need for continuous learning to increase the half-life period of knowledge. The higher education centres need to change along with the developing technologies and adoption of digital learning platforms can be the first step in this direction.

Dr. Charon Duermeijer, Senior Director, Academic Customer Engagement, Elsevier showcased "How Tech Transfer contributes to the economic growth of a country". Mr. Nitin Rawat, Senior Account Manager, Elsevier showcased the growing research landscape of India and the need of resources to boost that growth. He mentioned that India can become a leader in knowledge and innovation if all universities are able to function at their best with the optimum use of e-resources. More than 70 participants attended the programme.

Part - IV

Infrastructure Facilities, Distinguished Visitors, Other Important Activities and Financial Status

1. Central Facilities

1.1. Library (<http://www.inflibnet.ac.in/library/>)

The INFLIBNET Centre has a specialized library having unique collection on library and information science, computer science, communication and information technology. The library is fully computerized using SOUL 2.0 integrated library management software. The library has around 2,000 documents including books, journals and magazines. The collection of the library is available online through the web OPAC at <http://www.inflibnet.ac.in/library/>. Fig. 64 shows library of the INFLIBNET Centre.



Fig. 64: INFLIBNET Centre's Library

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

1.1.1. 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

1.1.2. Access to Online Database

The Centre subscribes to web edition of the Ulrich's International Periodical Directory, a web-based bibliographic database of periodicals that is being used for authentication of bibliographic records in union catalogues and for other activities. The database accessible on INFLIBNET's IPs is also accessible to visiting users. Besides, the Centre, as executing and monitoring agency for e-Shodh Sindhu has access to all e-journals, e-books and bibliographic database subscribed under this programme.

1.2. IR @ INFLIBNET (<http://ir.inflibnet.ac.in>)

The Centre has established an institutional repository called IR@INFLIBNET using DSpace, open source software accessible at <http://ir.inflibnet.ac.in>. The papers published in the proceedings of the CALIBER and PLANNER, are uploaded into the repository. The Repository also includes course materials, newspaper clippings, etc. The repository has 1,777 full-text articles.

1.3. Institutional Members

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

2. ICT Infrastructure@INFLIBNET Centre

The main objective of the Centre is to provide proactive help to the universities in library automation and to mediate resource sharing amongst them. The computing and network infrastructure are the main assets of the Centre, which is designed and planned based on the requirements of schemes, projects and activities of the Centre, its scientists and staff. Basic infrastructural facilities such as Computer Laboratories, Walk-in User's Facility and Data Centre are being maintained to support all its essential computing activities.

2.1. Servers, Desktops and Laptops

The Centre has added more PCs, Laptops, gadgets and other equipment with high configuration in 2017-2018 with total no. of 190 PCs, 38 laptops and 24 servers for scientists, project staff, walk-in User's Facility, Training Laboratories, etc. 190 PCs include five PCs that were purchased for setting-up ICSSR Data Services at ICSSR, New Delhi. 23 servers include servers that are installed at the Data

Centre of INFLIBET Centre either as staging servers for hosting services such as Web services, INFLIBNET Website, Shodhganga, OJAS, N-LIST, N-LIST Proxy Server, InfoPort, e-PG Pathshala, IndCat, DNS server, Intranet server, UGC website, e-SARTS, etc or as development servers as well as servers that are co-hosted at BSNL Data Centre for mirroring mission-critical services. One of the servers was transferred to ICSSR that mirrors ICSSR Data Services hosted at INFLIBNET Centre, Gandhinagar.

The IT infrastructure at INFLIBNET is being upgraded to cope-up with the cutting edge technology as well as to meet the requirements of high-ended, storage-intensive and mission-critical computing. During the year under report, the Centre acquired the following addition computing and network infrastructure:

Sl. No	Computer and Network Equipment	Quantity
1	NAS Box with Storage (107 TB)	2
2	NAS Box	1
3	Server with in-built Storage	1
4	Computer (Desktop)	9
5	L3 Switch	1
6	L2 Switch	3
7	Biometric Attendance device	1
8	Tower Server	1
9	Rack Server	1
10	Laptops	9

Table 59: Computing and Network Infrastructure Acquired During 2017 - 2018

Fig. 65 depicts thematical representation of Data Centre at the INFLIBNET Centre, Gandhinagar.

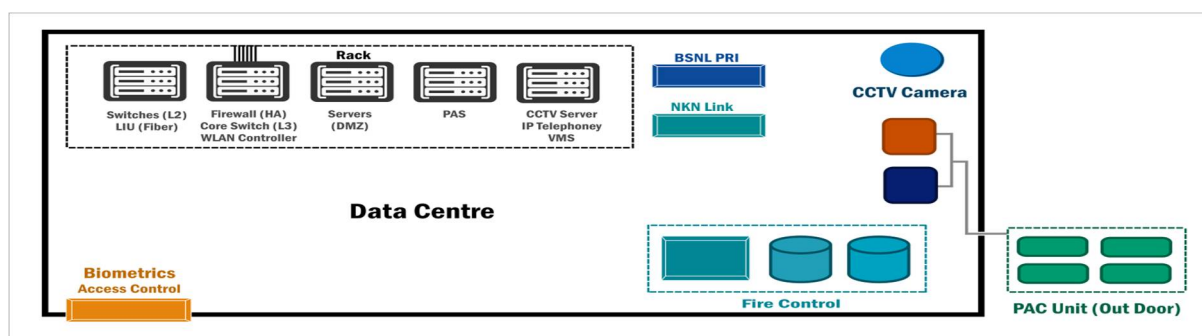


Fig. 65: Thematical Representation of Data Centre at INFLIBNET Centre

The Centre also uses services of BAADAL Cloud maintained by IIT Delhi as an NMEICT initiative of the MHRD. Table no. 60 is screenshot showing replication of schemes, projects and services of INFLIBNET Centre on Virtual Machines (VMs) of BAADAL.

Name of Website / Portal	Owner	Private IP	Public IP	RAM	cCPUs
e-Acharya-Mobile	INFLIBNET	172.16.111.13	14.139.13.25	64 GB	32 CPU
inflibnet_master	INFLIBNET	172.16.111.11	14.139.13.12	64 GB	16 CPU
inflibnet-window	INFLIBNET	172.16.111.14	14.139.13.26	16 GB	16 CPU
e-Acharya_test_server	INFLIBNET	172.16.111.12	14.139.13.13	64 GB	16 CPU
e-Acharya-Mobile-DB	INFLIBNET	172.16.111.20	NA	64 GB	32 CPU
E-Acharya-Mobile-App	INFLIBNET	172.16.111.19	NA	64 GB	16 CPU
e-Acharya-Mobile-Application	INFLIBNET	172.16.111.18	14.139.13.46	32 GB	16 CPU
INFLIBNET_APPLICATIONS	INFLIBNET	172.16.111.17	14.139.13.45	16 GB	8 CPU
SWAYAM-PRABHA	INFLIBNET	172.16.111.22	14.139.13.48	64 GB	16 CPU
IndCat-win	INFLIBNET	172.16.111.15	NA	16 GB	16 CPU
IndCat-lin	INFLIBNET	172.16.111.28	14.139.13.82	16 GB	16 CPU
inflibnetTest	INFLIBNET	172.16.111.25	14.139.13.79	64 GB	16 CPU
ePGPathshala_Portal	INFLIBNET	172.16.111.39	14.139.13.93	16 GB	16 CPU
Smanindia	INFLIBNET	172.16.111.34	14.139.13.88	16 GB	16 CPU
Ek Bharath	INFLIBNET	172.16.111.43	14.139.13.117	16 GB	16 CPU

Table 6o: Schemes, Projects and Services of INFLIBNET on Virtual Machines (VMs) of BAADAL

2.2. Campus-LAN and Internet Connectivity

The Centre provides most of its services through Internet on 24*7*365 basis. The network infrastructure is one of the most important components providing efficient and effective services to the remote and local academic users. The Centre has upgraded network infrastructure that connects all its offices and laboratories with National Knowledge Network (NKN) that provides 1 Gbps MPLS (Multi Protocol Layer Switching) connectivity to all universities in India. The bandwidth is currently used within a limit of 100-150 Mbps, but it can be increased on demand based on bandwidth intensive applications up to 1 Gbps. INFLIBNET Centre is having two Internet connections, i.e. one from NKN and other from BSNL for redundancy. Access to e-resources is enabled on all sets of IP addresses used by the Centre. STM (Synchronous Transfer Mode) equipment at Centre is connected through Optical Fibre to Gandhinagar node of NKN on ring topology. This gives redundancy of NKN links and the architecture of the NKN is enabled to reach all universities with minimum hops. Any university can be reached with minimum hops on NKN and this gives INFLIBNET an advantage of serving the universities with good speed and higher data transfer.

The network is running over managed L3 switches and managed L2 switches with 40 Gbps ready network with structured cabling, rack, I/Os, jack panels, etc as shown in Fig. 66. Dedicated firewall appliance is purchased with subscription to anti-virus, anti-spam and intrusion detection system. PCs and laptops used in the Centre are protected against attack and other vulnerability by Gateway level-filtering and intrusion detection system using Fortinet UTM. User-level antivirus protection is also enabled for end-user protection. On an average, the INFLIBNET Website and the national union databases attract more than 15,000 visitors per month.

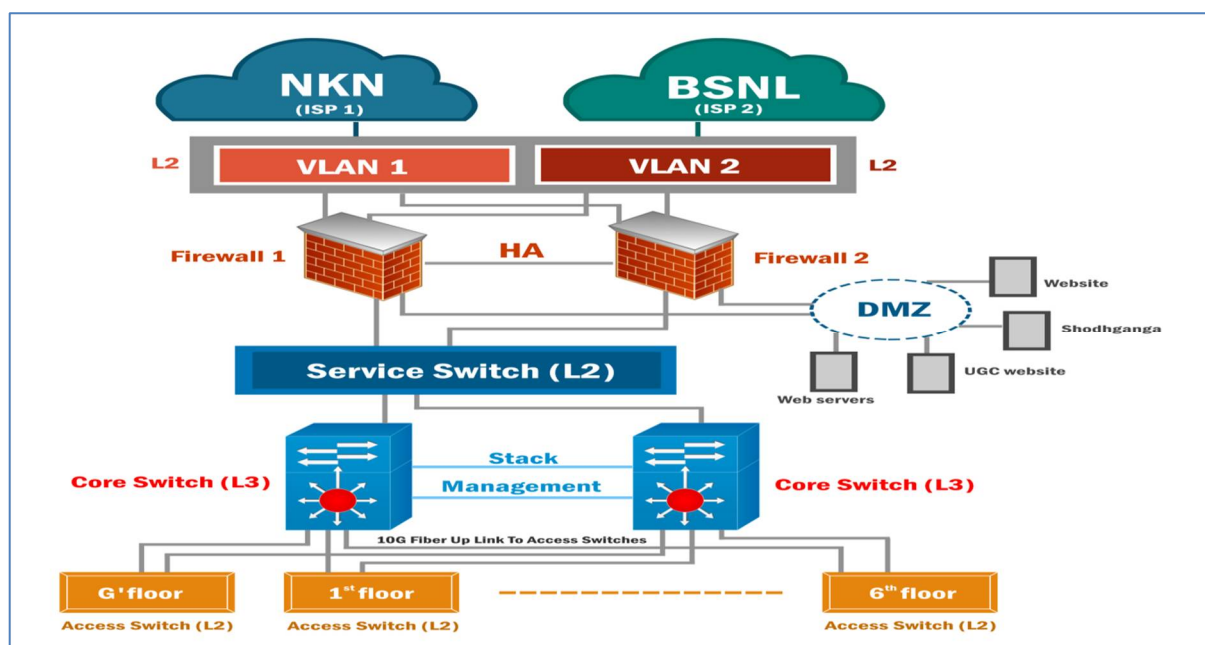


Fig. 66: Thematical Diagram Showing L-2 and L-3 Switches Connected to NKN / BSNL , Firewall and Other Computing Infrastructure in INFLIBNET

During the year under report, one L3 switch and eight L2 switches were procured and commissioned for extending the network services and Wi-Fi connectivity throughout the Campus of INFLIBNET Centre.

2.3. Integration of Data Centre and other IT Services

The Data Centre established at INFLIBNET Centre is having most robust setup that is to host mission critical servers and computer systems, with fully redundant subsystems. All components are fully fault-tolerant including uplinks, storage, chillers, HVAC systems, servers, etc. The INFLIBNET Centre uses HP Blade System C 3000 Enclosure for hosting Web Services, INFLIBNET website, Shodhganga, OJAS, N-LIST, InfoPort, e-PG Pathshala, IndCat, DNS server, Intranet server, etc. IBM Blade Centre S chassis is used for Web co-location services at BSNL, which host mirror sites of services such as UGC website, N-LIST Proxy Server, Online UGC's e-SARTS and other important services.

Building Management System (BMS) integrates the mechanical and electrical equipment used for various services such as ventilation, lighting, power system, fire system and security system. HVAC

(Heating, Ventilation and Air Conditioning) is used for indoor environmental comfort based on the principle of thermodynamics, fluid mechanics and heat transfer, ensuring maximum levels of efficiency and economy. Honeywell Trend is used for the BMS Solutions. Smart Visitor Management Software is used for storing data and generating a gate-pass for visitors.

26 CCTV cameras from M/s. Honeywell are used as Surveillance System by categorizing into three types. PTZ security cameras allow controlling the Pan, tilt and zooming operations of the camera lens remotely or through programming. Other two cameras are Box type's cameras and Dome type cameras. All cameras are IP-based, advanced and PoE (Power on Ethernet) enabled. Telephony services in the Centre are established using IP Telephony system in the Local Area Network itself which is based on Internet Protocol phones. Three different categories of phones i.e. Siemens Open Stage 60 for Scientists and Open Stage 40 are used for other staff member and Open Stage 15 for security & residences. The Centre also has 60 "Open Stage 15" IP phones to extend IP Telephony services in 39 Guest Rooms and staff in office.

A dedicated ISDN PRI line is used for Video Conferencing Facility with high definition resolution camera with codec, multipoint control unit and HD LCD/LED TV for display. Public Addressing System (PAS) is in place for playing soothing music in the background in the premises of a building to give pleasant ambiance for working professionals. The entire building is divided into various zones and zone-wise announcement is also possible with centralized control. Boardroom is equipped with facilities that can be controlled with a wireless touchpad/iPad. The auditorium with 380 seating capacity is well equipped with professional sound system, advanced dynamic mixer and state-of-art mic preamps with DSP with 100 presets including reverb, chorus, flanger, delay, pitch shifter and various multi effects with at least 12 channels for audio devices like mics (i.e. collar, hand-help, audio mike, cordless and vocal instrumental), laptop, CD/DVD player or music instruments, media players, etc. The mixer is connected with sufficient amplifiers for Base (Woofers), FOH (Front of the House), surround speakers, crossover amplifier for balancing the gain of audio and stage monitor speaker with plug and play facility. The entire campus is equipped with Wi-Fi hotspot including Guest houses, residences and Plaza area.

2.4. Training Laboratories

The Centre conducts training programmes including SOUL Training Programmes on regular basis. One of the two Training Laboratories is equipped with 42 PCs with projection system and other equipment for this purpose. All PCs in the Laboratory are connected to the Centre's LAN, which is connected to the Internet. All PCs are set-up in dual operating system mode, i.e. Windows and Linux. All the PCs and network equipment are backed-up with Uninterrupted Power Supply (UPS).

2.5. SOUL Support Centre

The SOUL software, developed by the Centre, has more than 3,483 installations across the country. SOUL Support Cell is equipped with 5 PCs, scanner and printer. A facility has been created to provide

support to the users of the SOUL Software with dedicated telephone line, fax and manpower special earmarked for this purpose.

2.6. Walk-in User's Facility for Researchers

The Centre has 16 Internet-enabled all-in-one PCs with Internet connectivity earmarked for students, scholars and faculty from neighbouring institutions for accessing e-resources subscribed under the e-Shodh Sindhu. The license agreements signed with the publishers of e-resources provides for access to e-resources to "walk-in" users. More than 400 users availed this facility during the period under report.

2.7. Uninterrupted Power Supply (UPS)

Centre has two 40 kVA each UPS for dedicated power supply to DataCentre and network equipment installed at different locations of the Centre. During the period under report, the Centre has procured two UPSs of 40 KVA each to meet the demand of uninterrupted power supply of new IT equipment.

3. Academic Interaction with Universities and other Research Institutions

Although the Centre receives a large number of applications from engineering colleges in Gujarat and neighbouring states for training at the INFLIBNET, the Centre selects limited student trainees. Many students had undergone practical training at the INFLIBNET Centre during the year under report. Facilities are also extended to the library science students of Gujarat University, Ahmedabad to avail library internship at the Centre. Number of students who availed internship at INFLIBNET and their institutional affiliation is given below in Table 61.

Sl. No.	Name of the Institute	Degree	No. of students
1	Dept. of Library Science, Gujarat University, Ahmedabad	MLISc	05
2	Rollwala Computer Centre, Gujarat University, Ahmedabad	M.Tech	02
3	Dept. of Library Science, Gujarat University, Ahmedabad	BLISc	06

Table 61: No. of Students who Availed Internship at INFLIBNET and their Institutional Affiliation

4. Other Notable Activities and Events

4.1. Independence Day

The INFLIBNET Centre celebrated 71th Independence Day on Tuesday, 15th August 2017. The National Flag was hoisted by Mr. H G Hosamani, Scientist C (LS), INFLIBNET Centre. Mr. Hosamani addressed the staff members and their families regarding the activities of the Centre. A number of

games were organized for staff and their children during the event and prizes were distributed to the winners of the games.

4.2. Navratri

The INFLIBNET Centre celebrated Garba festival with great enthusiasm. The Garba night was organized for its employees and their families on 26th September 2017. The function started with Durga Puja and everyone from the campus, staff member and their families participated. The employees and their families turned out in their best traditional attire. Dr. Jagdish Arora, Director, INFLIBNET Centre distributed the prizes for the best dance performers, best-dressed persons and children. The function concluded with the ceremonial dinner.



Fig. 67: Navratri @INFLIBNET Centre

4.3. Republic Day

The INFLIBNET Centre celebrated 69th Republic Day on 26th January 2018 at INFLIBNET Centre, Infocity, Gandhinagar. The National Flag was hoisted by Mr. Yatrik Patel, Scientist D (CS), INFLIBNET Centre. Mr. Yatrik Patel addressed the staff members and their families about the activities of the Centre.

5. Visitors

The Centre had privileged of welcoming the following important visitors.

Shri Prakash Javadekar, Hon'ble Minister of Human Resource Development, visited INFLIBNET Centre, Gandhinagar on 17th November, 2017. He met and interacted with all Scientists of the Centre and took a presentation on services and activities of the Centre. He took a round of the premises of the Centre and addressed the Scientist and Staff of the Centre in the Auditorium. He also planted a sapling on the campus.



Fig. 68: Shri Prakash Javadekar, visited INFLIBNET Centre

Dr. Udai Narayan Singh, Former University Librarian, Guru Ghasidas University, Bilaspur

Dr. Manorama Tripathi, Deputy Librarian, Jawaharlal Nehru University, New Delhi

Dr. Dharmesh Raykundaliya, Assistant Professor, Sardar Patel University, Anand

Dr. R. D. Chaudhari, Associate Professor, M G Science Institute, Ahmedabad

Dr. Shantanu Ganguly, Fellow, TERI, New Delhi

Ms. Sharan Pal Kaur, Senior Manager, GAIL, Noida

Prof. Kamlesh Joshipura, Member, GB, INFLIBNET and Former Vice-Chancellor, Saurashtra University, Rajkot

Dr. Nabi Hasan, University Librarian, Aligarh Muslim University, Aligarh

Dr. Hasan Jamal Abidi, University Librarian, Jamia Millia Islamia, New Delhi
Dr. Nilanjan Roy, Director, ARIBAS, Anand
Dr. R K Chadha, Former Additional Secretary, Parliament of India, New Delhi
Dr. Tilak R Kem, Former Director, Consortium for Educational Communication (CEC), New Delhi
Mr. Rajesh Patel, Broadcast Engineer, BISAG, Gandhinagar
Dr. Himanshu Pandya, Vice-chancellor, Gujarat University, Ahmedabad
Dr. Savita R. Gandhi, Head, Rollwala Computer Centre, Gujarat University, Ahmedabad
Dr. Jagdish Joshi, Director, UGC-Human Resource Development Centre, Gujarat University, Ahmedabad

6. Right to Information (RTI) Act

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 is 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>.

7. Financial Status

The Audited Annual Accounts of INFLIBNET Centre for the financial year 2017-2018 is given in the Appendix XI.

Appendices

Council

Ex. Officio Members

President	
<p>Prof D P Singh Chairman University Grants Commission Bahadur Shah Zafar Marg, New Delhi (January 1st 2018 onwards)</p>	
<p>Prof Ved Prakash Chairman University Grants Commission Bahadur Shah Zafar Marg, New Delhi (April 1st 2013 to April 3rd 2017)</p>	<p>Prof V S Chauhan Chairman University Grants Commission Bahadur Shah Zafar Marg, New Delhi (April 4th 2017 to December 31st 2017)</p>
Members	
<p>Prof Anil D Sahasrabudhe Chairman, All India Council for Technical Education Vasanth Kunj, New Delhi</p>	<p>Dr Girish Sahni Director General & Secretary, DSR CSIR, Anusandhan Bhawan 2, Rafi Marg, New Delhi</p>
<p>Dr Braj Bihari Kumar Chairman, Indian Council of Social Science Research JNU Institutional Area, New Delhi</p>	<p>Dr Arun Kumar Chakraborty Director General, National Library Belvedr, Kolkatta</p>
<p>Prof Vinay Kumar Pathak Vice-Chancellor Dr. A.P.J. Abdul Kalam Technical University Lucknow, Uttar Pradesh</p>	<p>Prof M P Poonia Vice-Chairman (AICTE) All India Council for Technical Education Nelson Mandela Marg, Vasanth Kunj New Delhi</p>
<p>Dr Ramesh Gaur Director, Indira Gandhi Centre for Arts New Delhi</p>	<p>Dr Jagdish Arora Director, INFLIBNET Centre Infocity, Gandhinagar</p>

All Members of the Governing Board are also Member of the Council

Governing Board

Ex. Officio Members

Chairman	
Prof Yogesh Singh Vice-Chancellor Delhi Technological University Delhi (January 31st 2018 onwards)	Prof N Mukunda C V Raman Research Professor Indian Academy of Sciences, C V Raman Avenue, Bangalore (February 22nd 2013 to February 21st 2016)
Vice ChairPerson, UGC	
Prof H Devaraj Vice-Chariman University Grants Commission Bahadur Shah Zafar Marg, New Delhi (June 25th 2013 to June 24th 2016)	<<Vacant>> Since 2016
Secretary, UGC	
Prof (Dr) Jaspal Singh Sandhu Secretary University Grants Commission Bahadur Shah Zafar Marg, New Delhi (March 3rd 2014 to August 16th 2017)	Prof Rajnish Jain Secretary University Grants Commission Bahadur Shah Zafar Marg, New Delhi (February 9, 2018 onwards)
Members	
Prof A P Mittal Member Secretary All India Council for Technical Education Vasanth Kunj, New Delhi	Prof S A Bari Vice-Chancellor Central University of Gujarat Sector 30, Gandhinagar
Prof R C Kuhad Vice-Chancellor Central University of Haryana, Haryana	Prof S B Ray Chaudhury Vice-Chancellor Rabindra Bharati University, Kolkata
Prof Anurag Kumar Director, Indian Institute of Science, Bangalore	Dr R K Chadha Former Additional Secretary, Lok Sabha, New Delhi
Dr K P Joshipura (Former VC, Saurashtra University) Nivruti Nivas, 7 Jagnath Plot, Rajkot	Prof Pratosh Bansal Professor of IT Institute of Engineering and Technology, Devi Ahilya Vishwavidyalaya, Indore

<p>Dr B K Tripathi Director, IUC for Teacher Education, Banaras Hindu University, Varanasi</p>	<p>Dr N Saravana Kumar Joint Secretary (ICC & TEL), MHRD, Shastri Bhawan, New Delhi</p>
<p>Dr Jagdish Arora (Member Secretary) Director, INFLIBNET Centre Infocity, Gandhinagar</p>	

Finance Committee**Ex. Officio Members****Prof. Yogesh Singh**

Vice-Chancellor
Delhi Technological University
Bawana Badli Road
Delhi

Prof. Rajnish Jain

Secretary
University Grants Commission
Bahadur Shah Zafar Marg
New Delhi

Mr. P. K. Thakur

Financial Advisor
University Grants Commission
Bahadur Shah Zafar Marg
New Delhi

Dr. (Mrs.) Manju Singh

Jt. Secretary
University Grants Commission
Bahadurshah Zafar Marg
New Delhi

Dr. Jagdish Arora

Director
INFLIBNET Centre
Infocity, Gandhinagar

Nominated Member**Mr. Yatrik Patel**

Scientist-D (CS) & In-charge (P&A)
INFLIBNET Centre
(Non-Member Secretary)

Building Committee**Prof S K Khanna (Chairman)**

Chief Advisor
Sharda University
Plot No. 32-34, Knowledge Park III
Greater Noida

Mr Rajeev Kathpalia

Vastu-Shilpa Consultants
"Sangath" Thaltej Road
Ahmedabad

Dr. Jagdish Arora

Director
INFLIBNET Centre
Infocity, Gandhinagar

Mr Manoj Kumar K

Scientist-D (CS)
INFLIBNET Centre
Infocity, Gandhinagar

Prof Dharendra Pal Singh

Director
NAAC
Bangalore

Mr Harish Chandra (Convener)

Admn. Officer
INFLIBNET Centre
Infocity, Gandhinagar

Dr R K Chadha

Former Additional Secretary
Lok Sabha, New Delhi

Technical, Administrative and Supporting Staff

Scientific & Technical Staff		
Sl. No.	Name of the employee	Designation
1.	Dr. Jagdish Arora	Director
2.	Mr. Manoj Kumar K.	Scientist-D (CS), In-charge (Estate)
3.	Mr. Ashok Kumar Rai	Scientist-D (CS), In-charge (F&A)
4.	Mr. Yatrik R. Patel	Scientist-D (CS), In-charge (P&A)
5.	Mr. H. G. Hosamani	Scientist-C (LS), In-charge (GH & Resi.)
6.	Mr. Abhishek Kumar	Scientist-C (CS), In-charge (P&S)
7.	Mr. Kannan P.	Scientist-C (LS)
8.	Mr. Swapnil P. Patel	Scientist-B (CS)
9.	Mr. Divyakant Vaghela	Scientist-B (CS)
10.	Mr. Gaurav Prakash	Scientist-B (CS)
11.	Mrs. Vaishali A. Shah	Scientist-B (LS)
12.	Ms. Kruti J. Trivedi	Scientist-B (LS)
13.	Mr. Dinesh Ranjan Pradhan	Scientist-B (LS)
14.	Dr. Miteshkumar Pandya	Scientist-B (LS)
15.	Mr. Hitesh H. Solanki	Scientist-B (CS)
16.	Mr. Pallab Pradhan	Scientist-B (LS)
17.	Mr. Raja V.	Scientist-B (CS)
18.	Mr. Kimidi Siva Shankar	Scientist-B (LS)
19.	Mrs. Hema Cholin	S.T.O - I (LS)
20.	Ms. Suboohi Siddiqui	S.T.O - I (LS)
21.	Mr. Saroja Kumar Panda	STA (LS) (on lien w.e.f.18.05.2016)
22.	Mr. Dharmeshkumar A. Shah	STA (CS)
23.	Mr. Mohit Kumar	STA (CS)
24.	Mr. Vijaykumar M Shrimali	STA (CS)
25.	Mrs. Roma Yogesh Asnani	STA (LS)
Administrative & Support Staff		
26.	Mr. Harish Chandra	Administrative Officer (F&A)
27.	Mrs. S. M. Munshi	Section Officer (P&S)
28.	Mr. Sanjay R. Shah	Office Assistant-II
29.	Mrs. Yamini J. Dave	Office Assistant-II
30.	Mrs. R. B. Pendharkar	Office Assistant-II
31.	Mr. Ankur B. Parikh	Office Assistant-II
32.	Mr. Devang Roy	Office Assistant.-II
33.	Mr. Shyam T. Yadav	Assistant

34.	Mr. Vinod B. Dantani	Helper
35.	Mr. Bakul M. Parmar	Lab Attendant
36.	Mr. Manish R. Bhoi	Helper/Auxiliary Staff-I

State wise List of SOUL Installations

Sr. No.	Name of the State	Installations	1 st April, 2017 to 31 st March, 2018	Total
1	Andhra Pradesh	164	6	292
2	Assam	74	11	84
3	Bihar	16	1	17
4	Chhattisgarh	36	4	40
5	Daman	2	0	2
6	Goa	3	0	3
7	Gujarat	928	18	946
8	Haryana	109	13	122
9	Himachal Pradesh	67	3	70
10	Jammu and Kashmir	73	5	78
11	Jharkhand	8	0	8
12	Karnataka	31	0	31
13	Kerala	131	0	131
14	Madhya Pradesh	257	26	283
15	Maharashtra	450	31	480
16	Manipur	1	0	1
17	Meghalaya	3	0	3
18	Mizoram	29	4	33
19	Nagaland	5	1	6
20	Nepal	4	0	4
21	New Delhi	39	2	41
22	North Easter States	296	0	296
23	Orissa	11	0	11
24	Pondicherry	5	0	5
25	Punjab	129	2	131
26	Rajasthan	60	1	61
27	Tamil Nadu	34	0	34
28	Telangana	118	3	3
29	Uttar Pradesh	105	4	109
30	Uttarakhand	19	1	20
31	West Bengal	143	3	146
Total		3352	139	3491

National Advisory Committee, e-Shodh Sindhu

Mr. R. Subrahmanyam (Chairman)

Secretary (HE)

Ministry of Human Resource Development

Shastri Bhawan, New Delhi

Sansad Marg, New Delhi

Sh. Sukhbir Singh Sandhu (Convener)

Additional Secretary (TE)

MHRD & Mission Director, NMEICT

Shastri Bhawan, New Delhi

Prof. K. K. Pant

Professor-Incharge Library

IIT Delhi (Representing INDEST-AICTE Consortium)

Prof. Asoke Kumar Sen

Dean

Dept. of Physics

Assam University, Silchar

Ms. Ishita Roy

Joint Secretary (HE)

Ministry of Human Resource Development

Shastri Bhawan, New Delhi

Prof. Karmeshu

Former Dean

Computer System & Sciences

Jawaharlal Nehru University (JNU), New Delhi

Dr. N. Saravana Kumar

Joint Secretary (ICC & TEL), MHRD, Shastri

Bhawan, New Delhi

Dr. R K Chadha

Former Additional Secretary

Lok Sabha Secretariat, New Delhi

Ms. Darshana M Dabral

JS & FA

Ministry of Human Resource Development

Shastri Bhawan, New Delhi

Dr. Ramesh Gaur

Director, Indira Gandhi Centre for Arts, New Delhi

Prof. D P Singh

Chairman

University Grants Commission

Bahadur Shah Zafar Marg

New Delhi

Prof. V. Ramgopal Rao

Director

Indian Institute of Technology, Delhi

HauzKhas, New Delhi

Prof. Anil D Sahasrabudhe

Chairman

All India Council for Technical Education,

Nelson Mandela Marg, VasanthKunj,

New Delhi

Prof. Debi Prasad Sarkar

Director

IISER, Mohali

SAS Nagar, Manauli

Adviser (Higher Education)

NITI Aayog

Prof. Devang V Khakhar

Director

Indian Institute of Technology, Bombay

Powai, Mumbai

Prof. Appa Rao Podile

Vice-Chancellor

University of Hyderabad

Gachibowli, Hyderabad

Prof. Sheo Kumar Pandey

Vice Chancellor

Pt. Ravishankar Shukla University

Amanaka G.E. Road, Raipur

Dr. Partha Pratim Chakrabarti

Director

Indian Institute of Technology, Kharagpur

Prof. P P Das

Professor, Dept of Computer Science

Indian Institute of Technology, Kharagpur

Mr. Maneesh Garg

Joint Secretary (SE-I)

Department of SEL

Ministry of Human Resource Development

Shastri Bhawan, New Delhi

Prof. Huzar Saran

Professor

Dept of Computer Science and Engineering

Indian Institute of Technology, Delhi

Hauz Khas, New Delhi

Prof. I V Malhan

HOD, DLIS

Central University of Himachal Pradesh

Kangra, Himachal Pradesh

Dr. Jagdish Arora (Convener)

Director

INFLIBNET Centre

Infocity, Gandhinagar

National Steering Committee (NSC), e-Shodh Sindhu

Ex. Officio Members**Dr. Partha Pratim Chakrabarti (Chairman)**

Director
Indian Institute of Technology, Kharagpur

Prof. Ajit Kembhavi

Emeritus Professor
IUCAA, Pune

Prof. K K Pant

Professor-Incharge Library
IIT Delhi (Representing INDEST-AICTE Consortium), New Delhi

Mr. Manoj Kumar

Coordinator
National Knowledge Resource Consortium (CSIR and DST)
NISCAIR
Satsang Vihar Marg, New Delhi

Dr. DD Lal

Coordinator
DelCON (DBT)
Manesar, Gurgaon

Shri Yogesh Modi

Scientist - D
DESIDOC
Metcalf House
New Delhi (Coordinator, DRDO Consortium)

Prof. A P Mittal

Member Secretary
All India Council for Technical Education
Janpath, New Delhi

Dr. (Mrs.) Manju Singh

Jt. Secretary
University Grants Commission
Bahadur Shah Zafar Marg, New Delhi

Shri Sukhbir Singh Sandhu (Convener)

Additional Secretary (TE)
MHRD, New Delhi

Dr. Jagdish Arora (Convener)

Director
INFLIBNET Centre
Infocity, Gandhinagar

Nominated Members**Prof. Sri Krishna Srivastava**

Vice-Chancellor
North Eastern Hill University
UmshingMawkynroh, Shillong

Prof. Suhas Pednekar

Vice-Chancellor
University of Mumbai
M G Road, Fort, Mumbai

Dr. Ananad A. Samuel

Vice-Chancellor
VIT University
Near Katpadi Road, Vellore

Dr. Ravindra Kumar

Vice-Chancellor (I/C)
Indira Gandhi National Open University (IGNOU)
MaidanGarhi, New Delhi

Prof. (Dr.) R Venkata Rao

Vice-Chancellor

National Law School of India University

Nagarbhavi, Bengaluru

Prof. Bhaskar Ramamurthi

Director, Indian Institute of Technology

Madras, IIT P.O., Chennai

Prof. K N Lokesh

Director-In-Charge

National Institute of Technology Karnataka,

Surathkal

Prof. Jayant B Udgaonkar

Director

Indian Institute of Science Education and

Research, Pune

Dr. Saibal Chattopadhyay

Director

Indian Institute of Management, Calcutta

Prof. Banshidhar Majhi

Director

IIIT Kancheepuram

Prof. Anurag Kumar

Director

Indian Institute of Science, Bengaluru

Prof. Gautam Biswas

Director

Indian Institute of Technology, Guwahati

Joint Negotiation Committee, e-Shodh Sindhu

Ex. Officio Members

Prof. Ajit Kembhavi (Chairman)

Former Director
Inter-University Centre for
Astronomy and Astrophysics (IUCAA)
Pune

Dr. Jagdish Arora (Convener)

Director
INFLIBNET Centre
Infocity, Gandhinagar

Shri S K Joshi

Coordinator & I/c, CERA Consortium
Indian Council of Agricultural Research
New Delhi

Dr. K P Singh

Director & Coordinator (ERMED Consortium)
National Medical Library
New Delhi

Mr. Ashok Kumar Rai

Scientist D (CS) & Incharge of e-Shodh Sindhu
INFLIBNET Centre
Infocity, Gandhinagar

Mr. Manoj Kumar

Coordinator, CSIR E-journal Consortium
NISCAIR, SatsangVihar Marg
New Delhi

Dr. D D Lal

Coordinator
DelCON (DBT), Gurgaon

Shri Yogesh Modi

Scientist - D
DESIDOC, Metcalfe House
New Delhi (Coordinator, DRDO Consortium)

Nominated Members

Dr. Anand T Byrappa

Librarian
Indian Institute of Science, Bengaluru

Dr. Tamal Kumar Guha

Librarian
IIT Guwahati

Member from Integrated Finance

MHRD, New Delhi

Member from TEL Bureau

MHRD, New Delhi

Prof. S A Bari

Vice-Chancellor, Central University Gujarat
(INFLIBNET GB Member)

Prof. R C Kuhad

Vice-Chancellor, Central University Haryana
(INFLIBNET GB Member)

Dr. T S Kumbar

Librarian, IIT Gandhinagar (Member from New IIT)

Dr. H Anil Kumar

Librarian, IIM Ahmedabad (Member from IIM)

Dr. Krishan Gopal

Librarian, NIT Kurukshetra (Member from NIT)

Dr. Debal C Kar

Librarian, Ambedkar University, Delhi
(Member from State University)

Dr. H J Abidi

University Librarian, Jamia Millia Islamia, New
Delhi (Member from Central University)

E-Resources Subscribed under E-Shodh Sindhu Consortium

Resources for Universities/CFTIs for the Year 2018

Sl. No.	Resource Name	No. of Titles	No. of Inst.
1	JSTOR	3000+	210
2	Economic & Political Weekly	1	202
3	JGate Plus (JCCC)	DB	197
4	Oxford University Press eSS Collection-262 titles	262	163
5	ASME Journals Online	29	56
6	ASCE Journals Online	36	50
7	ACM Digital Library	140	61
8	American Institute of Physics - eSS Collection	19	128
9	American Physical Society - eSS Collection	13	126
10	Institute for Studies in Industrial Development (ISID) Database	DB	All
11	Web of Science/LA	DB	150
12	Annual Reviews - eSS Collection	43	113
13	Project Muse	670	101
14	MathSciNet	DB	90
15	Springer Link+Nature 1 title	1700+	200
16	Taylor and Francis eSS Collection (1076 titles)	1076	129
17	American Chemical Society - eSS Collection	49	109

T N SHAH & CO. CHARTERED ACCOUNTANTS		503, Abhishek Complex Sector-11, Gandhinagar Telephone No.: 079 - 23222152	
INFLIBNET CENTRE Information and Library Network Centre (An Autonomous Inter-University centre of UGC) Infocity, Gandhinagar - 382 007			
BALANCE SHEET AS AT 31 st MARCH, 2018		Amount in Rupees	
SOURCES OF FUNDS	Schedule	Current Year 2017-2018	Previous Year 2016-2017
CORPUS/CAPITAL FUND	1	4835,30,297.55	5147,26,775.88
DESIGNATED/ EARMARKED / ENDOWMENT FUNDS	2	1371,42,131.40	4570,28,537.21
CURRENT LIABILITIES & PROVISIONS	3	719,68,848.54	498,26,311.00
TOTAL		6926,41,277.49	10215,81,624.09
APPLICATION OF FUNDS	Schedule	Current Year 2017-2018	Previous Year 2016-2017
FIXED ASSETS	4	3355,90,941.01	3649,75,252.13
Tangible Assets		51,996.46	3,96,487.81
Intangible Assets		-	-
Capital Works-In-Progress		-	-
INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS	5	-	-
Long Term		-	-
Short Term		476,40,728.00	325,00,000.00
INVESTMENTS - OTHERS	6	-	-
CURRENT ASSETS	7	2130,09,122.84	5475,35,137.69
LOANS, ADVANCES & DEPOSITS	8	963,48,489.18	761,74,746.46
TOTAL		6926,41,277.49	10215,81,624.09
SIGNIFICANT ACCOUNTING POLICIES	23		
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS	24		
As per our report of even date attached.			
For T N SHAH & Co. Chartered Accountants			
[T. N. Shah] Partner FRN : 109802W MEM. NO. : 042748 Place : Gandhinagar Date : 25.06.2018		[Harish Chandra] Administrative Officer-A&F	
[Dr. Jagdish Arora] Director		Place : Gandhinagar Date : 25.06.2018	
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.			

T N SHAH & CO. CHARTERED ACCOUNTANTS		INFLIBNET CENTRE Information and Library Network Centre (An Autonomous Inter-University centre of UGC) Infocity, Gandhinagar - 382 007		503, Abhishek Complex Sector-11, Gandhinagar Telephone No.:079-23222152	
INCOME AND EXPENDITURE ACCOUNT AS AT 31 st MARCH, 2018					
Particulars	Schedule	Current Year 2017-2018	Previous Year 2016-2017	Amount in Rupees	
<u>INCOME</u>					
Academic Receipts	9	4,85,730.18	2,08,139.00		
Grants / Subsidies	10	521,60,906.00	638,12,000.00		
Income from investments	11	75,64,989.00	65,99,576.00		
Interest earned	12	69,96,081.00	8,39,094.00		
Other Income	13	103,08,498.80	209,07,850.00		
Prior Period Income	14	-	-		
TOTAL (A)		775,16,204.98	923,66,659.00		
<u>EXPENDITURE</u>					
Staff Payments & Benefits (Establishment expenses)	15	382,37,449.00	329,97,756.00		
Academic Expenses	16	39,85,926.82	39,28,595.00		
Administrative and General Expenses	17	653,02,248.22	580,14,152.87		
Transportation Expenses	18	54,892.09	7,47,870.00		
Repairs & Maintenance	19	23,94,836.90	34,64,930.00		
Finance costs	20	40,717.28	9,481.84		
Depreciation	4	-	-		
Other Expenses	21	-	-85.50		
Prior Period Expenses	22	-	-		
TOTAL (B)		1100,16,070.31	991,62,700.21		
Balance being excess of Income over Expenditure (A-B)		-324,99,865.33	-67,96,041.21		
Transfer to / from Designated Fund					
Building fund					
Others (specify)					
Balance Being Surplus / (Deficit) Carried to Capital Fund		-324,99,865.33	-67,96,041.21		
Significant Accounting Policies	23				
Contingent Liabilities and Notes to Accounts	24				
As per our report of even date attached. For T N SHAH & Co. Chartered Accountants					
[T. N. Shah] Partner FRN : 109802W MEM. NO. : 042748 Place : Gandhinagar Date : 25.06.2018		[Harish Chandra] Administrative Officer-A&F		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. [Dr. Jagdish Arora] Director Place : Gandhinagar Date : 25.06.2018	

INFLIBNET CENTRE
Information and Library Network Centre

SCHEDULE - 2 DESIGNATED/ EARMARKED / ENDOWMENT FUNDS :

	Project Development Fund	D-Space	Swayam Pradha Project	North Eastern Region	E-NBA	UGC Website Maintenance	UGC Grants for Shodhganga	Internet Conn. at UGC	CUG Project	Amount in Rupees Integrated E-Content Portal
a) Opening balance of the funds	0.00	0.00	3,02,433.00	148,90,745.00	0.00	0.00	0.00	0.00	13,47,030.00	20,35,078.00
b) Additions during the year	24,500.00	0.00	0.00	0.00	10,00,000.00	1,05,335.00	118,16,976.00	0.00	0.00	0.00
c) Income from investments made of the funds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d) Accrued Interest on Investments/Advances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e) Interest on Savings Bank a/c	0.00	0.00	0.00	0.00	0.00	0.00	2,62,083.00	0.00	0.00	0.00
f) Other additions (Specify nature)	0.00	2,46,000.00	90,60,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
g) To be recovered from UGC/MHRD	0.00	0.00	0.00	0.00	0.00	2,24,333.34	0.00	0.00	0.00	0.00
B. TOTAL (a+b)	24,500.00	2,46,000.00	93,62,433.00	148,90,745.00	10,00,000.00	3,29,668.34	120,79,059.00	0.00	13,47,030.00	20,35,078.00
Utilisation/Expenditure towards objectives of funds										
i) Capital Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,43,278.00
ii) Revenue Expenditure	0.00	45,379.00	15,27,742.84	42,32,290.00	1,34,648.10	3,29,668.34	85,99,381.85	0.00	2,88,176.40	12,83,798.51
TOTAL (c)	0.00	45,379.00	15,27,742.84	42,32,290.00	1,34,648.10	3,29,668.34	85,99,381.85	0.00	2,88,176.40	20,27,076.51
NET BALANCE AS AT THE YEAR END (a+b-c)	24,500.00	2,00,621.00	78,34,690.16	106,58,455.00	8,65,351.90	0.00	34,79,677.15	0.00	10,58,853.60	8,001.49
Represented by										
Cash and Bank Balances	-									
Investments	-									
Interest accrued but not due	-									
TOTAL	-	-	-	-	-	-	-	-	-	-



INFLIBNET CENTRE
Information and Library Network Centre

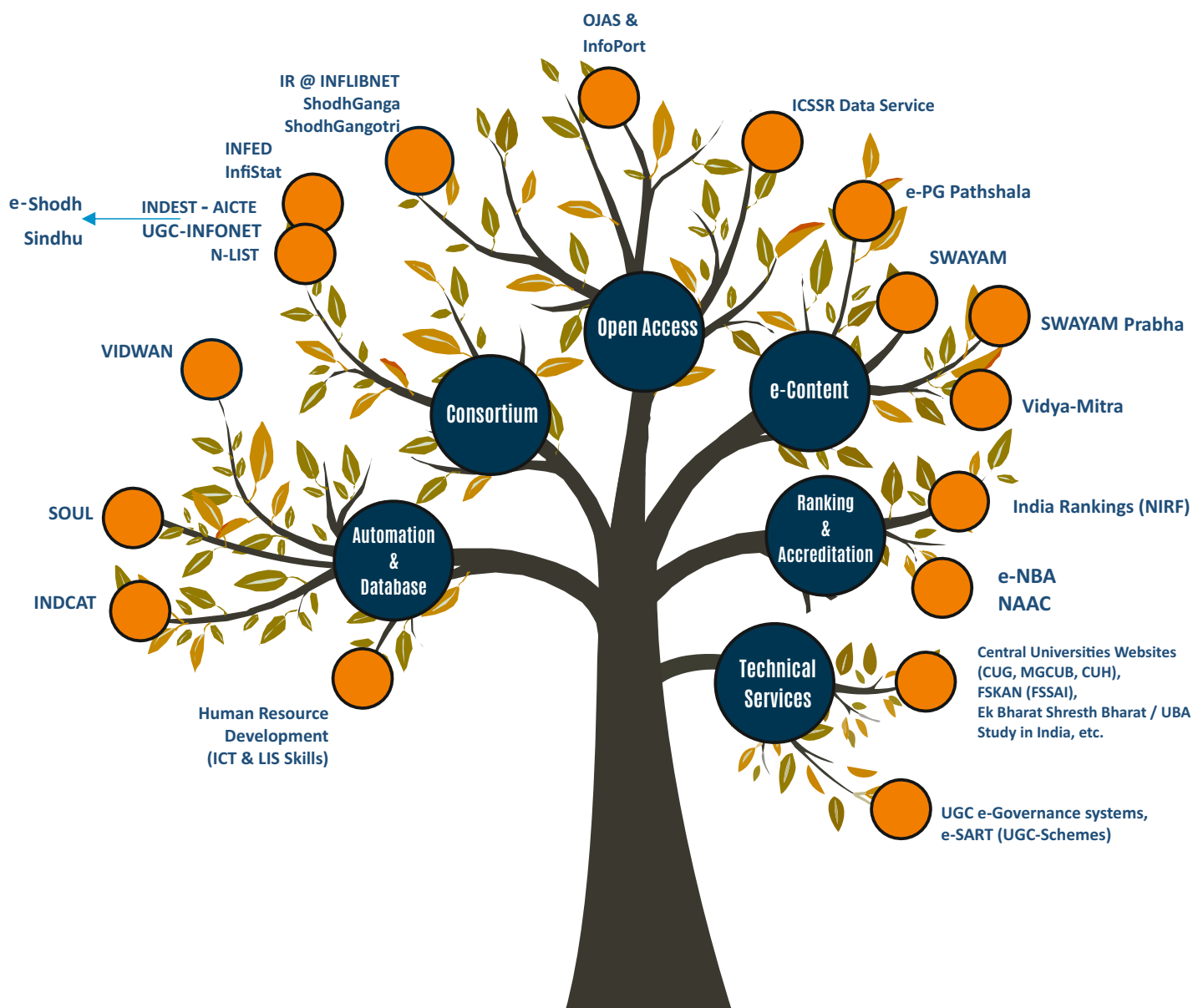
SCHEDULE - 2 DESIGNATED/ EARMARKED / ENDOWMENT FUNDS :

	Vidwan Expert Database	UGC Scheme SA-III	E-Shodh Sindhu AICTE	E-Shodh Sindhu	ICSSR	NIRF	NML	N-LIST
a) Opening balance of the funds	0.00	0.00	525,35,534.00	3434,68,569.75	17,60,226.00	52,14,734.00	10,78,887.00	332,91,051.46
b) Additions during the year	14,35,723.00	4,83,556.00	0.00	14512,31,430.00	14,00,000.00	0.00	0.00	205,30,749.71
c) Income from investments made of the funds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16,75,648.00
d) Accrued interest on investments/Advances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,88,783.00
e) Interest on Savings Bank a/c	0.00	0.00	0.00	2,92,845.00	0.00	0.00	0.00	0.00
f) Other additions (Specify nature)	0.00	0.00	0.00	310,00,000.00	0.00	55,54,800.00	4,000.00	5,06,398.00
g) To be recovered from UGC/MHRD	0.00	1,04,305.45	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL (a+b)	14,35,723.00	5,87,861.45	525,35,534.00	18259,92,844.75	31,60,226.00	107,59,534.00	10,82,887.00	565,92,630.17
B. Utilisation/Expenditure towards objectives of funds								
i) Capital Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ii) Revenue Expenditure	4,53,554.04	5,87,861.45	489,89,988.00	17538,99,440.29	9,78,982.43	35,47,491.60	10,82,887.00	313,17,993.05
TOTAL (c)	4,53,554.04	5,87,861.45	489,89,988.00	17538,99,440.29	9,78,982.43	35,47,491.60	10,82,887.00	313,17,993.05
NET BALANCE AS AT THE YEAR END (a+b-c)	9,82,168.96	0.00	35,45,546.00	720,93,404.46	21,62,626.57	72,22,042.40	0.00	252,74,637.12
Represented by								
Cash And Bank Balances	-	-	-	-	-	-	-	-
Investments	-	-	-	-	-	-	-	-
Interest accrued but not due	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-

SCHEDULE - 2 DESIGNATED/ EARMARKED / ENDOWMENT FUNDS :

	MGCUB	FSKAN A/c.	CUH	Current Year 2017-2018	Previous Year 2016-2017
a) Opening balance of the funds	7,78,345.00	3,25,904.00	0.00	4570,28,537.21	11534,80,970.26
b) Additions during the year	0.00	0.00	2,40,000.00	14882,68,269.71	25470,71,074.70
c) Income from investments made of the funds	0.00	0.00	0.00	16,75,648.00	309,06,930.00
d) Accrued interest on investments/Advances	0.00	0.00	0.00	5,88,783.00	4,47,060.00
e) Interest on Savings Bank a/c	0.00	0.00	0.00	10,61,326.00	0.00
f) Other additions (Specify nature)	0.00	10,35,000.00	0.00	488,99,800.00	0.00
g) To be recovered from UGC/MHRD	0.00	0.00	0.00	3,28,638.79	55,83,987.00
TOTAL (a+b)	7,78,345.00	13,60,904.00	2,40,000.00	19958,51,002.71	37374,90,021.96
B. Utilisation/Expenditure towards objectives of funds					
i) Capital Expenditure	0.00	0.00	0.00	0.00	0.00
ii) Revenue Expenditure	5,39,813.41	52,395.00	55,485.00	18579,46,976.31	32800,99,234.75
TOTAL (c)	5,39,813.41	52,395.00	55,485.00	18587,08,871.31	32804,61,484.75
NET BALANCE AS AT THE YEAR END (a+b-c)	2,38,531.59	13,08,509.00	1,84,515.00	1371,42,131.40	4570,28,537.21
Represented by					
Cash and Bank Balances	-	-	-	-	-
Investments	-	-	-	-	-
Interest accrued but not due	-	-	-	-	-
TOTAL	-	-	-	-	-





Information and Library Network Centre

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