INFLIBNET Centre

Information and Library Network Centre
Gandhinagar

Annual Report

April 2020 to March 2021

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From the Director's Desk

Prof J P Singh Joorel
Director

I am pleased to present the Annual Report of the Information and Library Network (INFLIBNET) Centre from April 2020 to March 2021 to the academic community. During the period under report, in the difficult time that has occurred due to the COVID-19 pandemic across the country with subsequent full & partial lockdowns the team at the INFLIBNET Centre put their best efforts and facilitated all our excellent services & support uninterruptedly to the students, research scholars, educational institutions, and libraries across the country. By using advanced modes of ICT, the team tried their best virtually reaching to all of our users/stakeholders/clients as much as possible. During this hard time, the Centre opened all its wings for a greater reach and strongly acted as a Covid Warrior specifically for the Education sector in the country that has been majorly impacted, like never before. The Centre undertook many new initiatives to support the same and expanded its existing services & activities manifold. The YUKTI Portal, INFLIBNET Learning Management Service (ILMS), "One India One Digital Platform", INDIAN Access Management Federation (INFED), "India Rankings 2020 & 2021" under the National Institutional Ranking Framework (NIRF), Atal Ranking of Institutions on Innovation Achievements (ARIIA 2020 & 2021), e-ShodhSindhu: Consortium for Higher Education Electronic Resources, "Fit India Movement", an MHRD initiative, conducting short-term & long-term Online Training Programmes and Webinars, and in-house development of SOUL 3.0 (Software for University Libraries: A state-of-the-art integrated library management software) were the major activities of the Centre among others.

During the first-ever nationwide lockdown due to the Covid-19 in 2020, the team at the INFLIBNET Centre developed a dedicated portal called YUKTI (Young India Combating COVID with Knowledge, Technology and Innovation) which covers the initiatives and efforts of various academic institutes across the country related to Coronavirus. The YUKTI portal was launched by Hon'ble Minister of Education, Shri Ramesh Pokhriyal 'Nishank' on 12th April 2020. The team at the Centre revamped the N-LIST website during the lockdown period which went live on 30th April 2020. The new website provides a single search option for accessing subscribed 6500+ e-journals and 200000+ e-books. Further, INFLIBNET Learning Management Service (ILMS) was started as a free service by the INFLIBNET Centre to institutions of higher e ducation across the country to provide pre-populated learning content, derived from e-PG Pathshala: A Gateway to PG Courses, as per the prevailing guidelines of UGC. This service is being offered to the Central, State and Deemed universities. Prof D P Singh, Hon'ble Chairman, UGC virtually launched the ILMS for the Dr HS Gour University, Sagar on Monday, 29th June 2020; the Central University of Gujarat, Gandhinagar on Tuesday, 07th July 2020; and the Central University of Punjab, Bathinda on Friday, 11th September 2020 respectively. The Centre has deployed this ILMS for 16 Universities during the reported period. The Centre developed

an integrated e-Content portal called "One India One Digital Platform" to make available all the resources being developed under NMEICT, MoE through a single web interface, which was launched by the Ministry of Education, Government of India. It provides the facility to search and browse all hosted content or metadata of other hosted content wherein a learner can easily access the desired material including audio/video learning material, textual material, multimedia enriched materials etc. It is made for learners of Class I to PG level. Started in a full-fledged manner as INFLIBNET Access Management Federation (INFED) in 2017, it is now renamed as INDIAN Access Management Federation that provides off-campus access to e-resources to users in institutes covered under e-ShodhSindhu from anywhere, anytime. During the period under report, 89 institutes joined INFED. As on 31st March 2021, a total of 183 institutes have joined INFED and 37 publishers are providing access to e-resources working with INFED.

Since the first launch of "India Rankings" under the National Institutional Ranking Framework (NIRF) in 2016, the Centre has continued the project and executed its 5th exercise of "India Rankings 2020" under the National Institutional Ranking Framework (NIRF)". On 11th June 2020, Hon'ble Education Minister, Shri Ramesh Pokhriyal 'Nishank' in the august presence of Hon'ble Minister of State, Shri Sanjay Dhotre e-released the India Rankings 2020 (NIRF). The work done by the INFLIBNET Centre was highly appreciated on that occasion. Also, the Centre successfully executed the 2nd exercise of Atal Ranking of Institutions on Innovation Achievements (ARIIA) framework which was launched by Shri M. Venkaiah Naidu, Hon'ble Vice President of India on 18th August 2020. The Centre is the technical partner with ARIIA project and has signed MoU with AICTE for the same. The Centre has started to work for "India Rankings 2021", and the 3rd exercise of ARIIA (ARIIA 2021) during the period under report.

During the period, the INFLIBNET Centre was assigned a new project to design, develop and maintain a portal for the "Fit India Movement", an initiative of the Ministry of Education to support the Fit India programme of the Government of India. The project has been assigned to the Centre for a period of 03 years or as per mutual understanding based upon requirements. Further, the Centre developed a web portal for the Distance Education Bureau - University Grants Commission to automate all its activities, which was launched by Prof D P Singh, Hon'ble Chairman, UGC on Friday, 9th August 2020 in the august presence of the members of the Commission. Also, the Centre developed a new activity portal for the Association of Indian Universities (AIU) which was launched virtually by Shri Ramesh Pokhriyal 'Nishank', Hon'ble Minister of Education on 17th August 2020 during the AIU National Conference of Vice-Chancellors on "Reimagining Indian Universities". The Centre developed a portal called as 'National Portal for Transgender Persons' for the Ministry of Social Justice and Empowerment, Department of Social Justice and Empowerment, GoI and made it functional on Wednesday, 25th December 2020. It enables a transgender person to apply for & get a certificate and identity card digitally from anywhere in the country, without having to visit any office. The Centre signed MoU with the said Ministry to computerize & automate the portal's activities and processes so that it can function effectively and efficiently. Also, the Centre developed the Kendriya Vidyalaya Sangathan Module for the HRM Office, Ministry of Education, New Delhi during the period under report. The INFLIBNET Centre was given projects by Universities like Sri Sri

Aniruddhadeva Sports University, Dibrugarh, the Central University of Gujarat, Gandhinagar, and Jagat Guru Nanak Dev Punjab State Open University (JGNDPSOU), Patiala for developing, managing, and hosting their institutional websites, and the Centre signed MoUs with them for the same.

During the period under report due to the Covid-19 pandemic situation and subsequent lockdowns across the country, the INFLIBNET Centre took many initiatives to support the academic research community under its Human Resource Development & Consultancy programme which includes conducting short-term and long-term online training programmes and webinars. In this connection, the Centre conducted 07 Online Training Programme on Installation and Operations of SOUL 2.0, the first during 1st - 5th June 2020, followed by second (6th - 10th July 2020), third (31st August - 4th September 2020), fourth (2nd - 6th November 2020), fifth (4th - 8th January 2021), sixth (15th - 19th February 2021), and seventh (22nd - 26th March 2021) respectively. Further, the INFLIBNET Centre organized 25 Webinars for all the members of the e-ShodhSindhu Consortium in collaboration with the respective publishers to increase the use of e-resources provided by e-ShodhSindhu Consortium. Apart from this, 15 State Level Online Awareness Programmes on PDS-ShodhShuddhi were organized in July and August 2020 for all States and Union Territories. The Centre also conducted 13 Online Awareness Programme on Access to e-Resources under the N-LIST for all College Members state-wise for increasing effective use of e-resources provided by N-LIST. A total of 33 National Level Online Webinars were conducted by the Centre, as well as in collaboration with other institutions across the country and vice-versa on a various range of topics related to academic and research during the reported period.

The INFLIBNET Centre conducted 06 Five-day National Level Online training programmes/workshops which include programmes on 'Research Methodology and Ethics: Plagiarism Issues, Reference Tools and Altmetrics' (15th to 19th June 2020), 'Metadata Management and Open Source Discovery System for Libraries' (22nd to 26th June 2020), 'Bibliometrics and Research Output Analysis' (20th - 24th July 202), 'Research Data and Statistical Analysis using R Programming' (14th - 18th September 2020), 'Creation and Management of Digital Library using Open Source Software' (05th - 09th October 2020), and 'Bibliometric and Research Output Analysis' (1st - 5th February 2021). The Centre conducted 03 Three-day National Level Online training programmes/workshops which include programmes on 'e-Learning: Content Creation & Hosting on LMS' (26th - 28th August 2020), 'Shodhganga and Plagiarism Issues' (25th - 27th November 2020), and 'Research Evaluation and Research Support Tools' (27th – 29th January 2021). Also, the Centre conducted an Online Training Programme on 'Exploring EBSCO e-resources (HW Wilson) for Learning and Research' available through N-LIST on 8th March 2021.

During this reported period, 02 collaborative Online Faculty Development Programmes (FDP) were organized in collaboration with the INFLIBNET Centre that includes a Two-day Online FDP on 'Managing Online Classes and Research' organized by the Faculty of Social Sciences, Aligarh Muslim University, Aligarh (29th - 30th April 2020) and a Five-day Online FDP on 'E-Content Design, Development and Delivery' organized by Kavikulaguru Kalidas Sanskrit University, Ramtek

(18th - 27th June 2020). Also, the Centre conducted a Five-day FDP on 'Cloud Technology' during 09th - 13th November 2020, and a Three-Day Capacity Building Programme for ICSSR, New Delhi Staff on 'ICSSR Data Service' during 15th - 17th December 2020.

A total of 39,387 participants attended these above-mentioned online training programmes/workshops/webinars/FDPs during the reported period.

I am proud to share that the INFLIBNET Centre has brought the new version of its in-house developed Library Automation Software, SOUL 3.0 (SOftware for University Libraries: A state-of-the-art integrated library management software) almost after a gap of 12 years during this reported period. Prof D P Singh, Hon'ble Chairman, University Grants Commission, New Delhi and Hon'ble Chairman, Governing Council, INFLIBNET Centre launched SOUL 3.0 on 24th February 2021 through online mode. Prof Yogesh Singh, Hon'ble Chairman, Governing Board, INFLIBNET Centre and Vice-Chancellor, Delhi Technological University, New Delhi graced the occasion as the Guest of Honour in the ceremony along with the presence of Dr Manju Singh, Joint Secretary, UGC, Vice Chancellors of various universities, Librarians/professionals of different Universities, Colleges and other institutions, and staff members of INFLIBNET Centre. During this reported period, the Centre organized a special lecture on "Protection of Sexual Harassment at Workplace: A Legal Perspective" by Dr Mayuri H Pandya, Director, GLS Law College, Ahmedabad on 9th March 2021. The Centre celebrated the 74th Independence Day on 15th August 2020 and 72nd Republic Day on 26th January 2021 at the Centre premises with all its staff members and their family.

I am confident that the activities & services, and support of the INFLIBNET Centre were effectively delivered to the end-users academic community in the country during the year. However, the Centre is always open to receive constructive suggestions and feedbacks from its user community. I assure you that the team at INFLIBNET Centre will remain focused on providing its uninterrupted excellent services & support to our academic community as always.

Finally, I hope that you and your loved ones are taking proper care and doing well in this pandemic. Corona is testing the limits of patience and tolerance of all of us. Make sure that you all must get vaccinated on a priority basis as per the eligibility, and create awareness among your relatives & neighbourhoods to overcome vaccine hesitancy, if any. Make masks and social distance your safety shield, and properly follow all government guidelines without any negligence.

Thank you.

Date: 26th July 2021   (Prof J P Singh Joorel)

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Part - I

Introduction, Aims & Objectives, Governing Structure and Human Resources

1. Introduction

The Information and Library Network (INFLIBNET) Centre, set up in May 1996, 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.

2. Mission and Vision

➤ Leveraging on the latest technology, create a virtual network of people and resources in academic institutions with an aim to provide effective and efficient access to knowledge through perseverance, innovation and collaboration;

➤ Provide seamless, reliable and ubiquitous access to scholarly, peer-reviewed electronic resources to the academic community in all educational institutions with a focus on services and tools, processes and practices that support its effective use and increase the 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 the 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;

☐ 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

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. 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. The Constitution and major responsibilities of these three committees are mentioned below:

4.1. Council

The Council 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, the 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 a year. The present members of the Governing Council are listed in **Appendix I**.

4.2. 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 a year. The current members of the Governing Board are listed in **Appendix II.**

4.3. 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 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**.

5. 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 2020 is given in **Appendix V**.

5.1. Functional Groups @INFLIBNET Centre

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

5.1.1. 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.

5.1.2. Software R&D: The objective of this group is to develop software for the academic community in India with a 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 the latest technologies and available development tools. The group also promotes and supports the

open-source software movement within the Centre as well as in the entire higher education community in India.

5.1.3. Human Resource Development (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 was 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 are being organized in the alternate year as part of the human resource development activities. Besides, training programmes on various specialized topics are being organized around the year at INFLIBNET Centre as well as in academic institutions around the country.

5.1.4. 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 highly discounted rates of subscription with the best terms and conditions using the consortia approach. The group also evaluates the impact of access to peer-reviewed scholarly content on the research productivity of the institutions both in terms of quality and in terms of quantity of publications in colleges and universities. E-resource Management Group is responsible for all consortium related activities including e-ShodhSindhu and NLIST.

5.1.5. Open Access R&D Group: The open-access has emerged as a promising alternative to the 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 the 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 systems.

5.1.6. e-Learning and e-Content Development: The Centre has a dedicated group of people who are working on e-Learning and e-Content development. The objective of this group is to create content in open access with the help of SMEs, provide innovative technology to academicians to develop/host the content. Currently, the Centre has several e-Content projects including e-PG Pathshala, Vidya-Mitra, SWAYAM and SWAYAM-Prabha.

5.1.7. 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 the 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 the selection, organization and presentation of services and resources in a meaningful way for the benefit of the user community.

5.1.8. 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, 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 as the 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.

6. Physical Infrastructure

The Centre is housed in its own 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 the tenets of a green building. The current composition of the Building Committee is given in **Appendix IV**.

7. Major Initiatives

Technology is a driving force in the contemporary education system. Thus, the Centre has taken up a number of initiatives for the benefit of the academic community in India. These initiatives can be broadly grouped into 12 categories as follows:

7.1. Automation of University Libraries

The Centre proactively helps universities to automate their libraries by various means. The INFLIBNET Centre signed MoU with 166 universities for 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.

7.2. IndCat: Union Catalogue of Indian Universities

IndCat consists of a union catalogue of Books, Serials and PhD theses available in university libraries. It contains bibliographic records of 1,14,80,023 books from 199 university libraries, 35,234 unique journals having holding information for 229 universities and 4,41,141 bibliographic records of theses from 444 universities.

7.3. Software Development: SOUL 2.0 & 3.0 (Integrated Library Automation Software)

INFLIBNET Centre contributes towards the automation of libraries through in-house developed SOUL (SOftware for University Libraries) software. SOUL has 3,843 installations across the country. In 2021, INFLIBNET Centre developed the new version of SOUL that is SOUL 3.0 which was launched online by Prof D P Singh, Hon'ble Chairman, University Grants Commission, New Delhi and Hon'ble Chairman, Governing Council, INFLIBNET Centre on 24th February 2021.

7.4. Open Access, Open Data Initiatives, and Plagiarism Detection Software (PDS)

7.4.1. Shodhganga: Launched in January 2010, Shodhganga, a reservoir of Indian Theses, at present, hosts 2,99,499 full-text theses contributed from 490 institutes, during the period under report 30,499 full-text theses from 62 universities have been added. The initiative got momentum when eligible universities were provided access to plagiarism detection software and at present 1040 institutions are availing subscription for plagiarism detection software.

7.4.2. Shodhgangotri: Initiated in 2013, Shodhgangotri is a repository of research in progress that hosts a total of 8,131 synopses contributed by 87 institutes.

7.4.3. ShodhShuddhi - Plagiarism Detection Software (PDS): The Ministry of Eucation (erstwhile the Ministry of HRD), Govt. of India was to provide Plagiarism Detection Software (PDS) to all Indian Universities/Institutions including Central Universities, State Universities, Deemed to be Universities, Private Universities, Centrally Funded Technical Institutions (CFTIs), Institute of National importance (INIs), Inter-University Centres of UGC (IUCs). The INFLIBNET Centre is a nodal agency to execute the project/initiative under the aegis of MOE. The anti-plagiarism software facilitates the comparison of submitted documents with multiple databases of documents. It covers subscription-based resources, current & archived Internet web pages & web documents, open-access resources from primary publishers and aggregators, student papers database, etc. During the reported period, 15 Pan-India State Level Programmes on PDS-ShodhShuddhi were conducted across the country where a total of 3,363 participants participated from 1025 institutions across the country.

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

using NADA software. Currently, there are 4270 registered users in the Repository. This has been quite popular in the research community and has over 46 lakh+ resource downloads.

7.5.   Library Consortium and its By-products

7.5.1. e-ShodhSindhu: Launched in 2015, e-ShodhSindhu provides access to more than 7,096 e-journals and 6 lakh+ e-books (through NDLI) to more than 449 institutions that include universities, centrally-funded technical institutions. NLIST is a college component of e-ShodhSindhu that provides access to 6,150 electronic journals and 7,64,300+ e-books to more than 4.07 lakh users spanned across 3,198 colleges.

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

7.5.3. INFLIBNET Access Management Federation (INFED): Started in a full-fledged manner during 2017, INFED provides off-campus access to e-resources to users in institutes covered under e-ShodhSindhu. Currently, 183 institutions and 37 publishers have joined INFED.

7.5.4. J-Gate Plus: The J-Gate Plus @e-ShodhSindhu is a virtual library of journal literature created as a customized e-journal articles access gateway and database solution for member institutions of e-ShodhSindhu. It provides article-level access to e-journals subscribed under the Consortium as well as e-journals subscribed by 25 university libraries designated as ILL Centres of the INFLIBNET Centre.

7.6.   e-learning, Content Development and MOOCs

7.6.1. e-PG-Pathshala: Initiated in 2012, the INFLIBNET Centre has successfully completed the e-PG Pathshala, an MoE initiative under its National Mission on Education through ICT (NMEICT), executed by the UGC. The Centre coordinated the development of e-content in 70 subjects across all disciplines. Presently, it hosts 22,000+ e-modules. The Centre is now maintaining the website as well as strengthening its by-products.

7.6.2. Vidya-mitra: The Vidya-Mitra Project was assigned to the INFLIBNET Centre in May 2014. It is an integrated e-Content Portal for all the e-content projects developed under the NMEICT, MoE. Vidya-mitra hosts 66,000+ Video (Self-learning / e-Tutorial) and 44,000+ e-Text. Though the project has been completed, INFLIBNET Centre is providing free hosting services for e-contents developed by faculty members/academia across Indian institutions on a request basis. During the reported period, the Centre has received a total of 62 requests for the same and those are being processed.

7.6.3. SWAYAM: Massive Open Online Courses (for PG Courses): Launched on 9th July 2017, the INFLIBNET Centre is a nodal agency for coordinating MOOCs for PG courses. The Centre is executing this project with the guidance of UGC. The major role of INFLIBNET is fund disbursement to all course coordinators, the development of a web interface for course proposals and a dedicated portal for UGC-MOOCs. Portal provides a dashboard for SWAYAM coordinators, mentors, information on PG-courses update, workshop details, etc. The Centre has continued all the said activities for the year 2020-2021.

7.6.4. SWAYAM-PRABHA: The SWAYAM PRABHA, an MoE project under NMEICT, is conceived as a group of 34 DTH channels devoted to telecasting high-quality educational programmes on a 24X7 basis using the GSAT-15 transponders. The INFLIBNET Centre has continued the task of development and maintenance of the SWAYAM PRABHA portal and its hosting including archiving of videos for all the channel during 2020-21.

7.6.5. INFLIBNET Learning Management Service (ILMS): INFLIBNET Learning Management Service (ILMS) is a service offered by the Information and Library Network Centre to the institutions of higher education across the country. This service is being offered to all the Central, State and Deemed universities. Some of the core features are Course creation, Enrolment, Assignment & Assessment, Discussion forum, etc.

7.6.6. One India Digital Platform: The "One India Digital Platform" is an integrated e-Content portal that provides a facility to search and browse all hosted content or metadata of other hosted content wherein a learner can easily access the desired material including audio/video learning material, textual material, multimedia enriched materials etc. It is made for learners of Class I to PG level.

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

7.7.1. India Ranking 2016, 2017, 2018, 2019 and 2020 (NIRF): The first edition of India Rankings was launched in 2016 under the National Institutional Ranking Framework (NIRF). The Centre has continued the project NIRF and executed its 5th exercise of "India Rankings 2020" under the National Institutional Ranking Framework (NIRF)" during the report period. The Centre was responsible for the development of the NIRF Web Portal including the data capturing system, perception capturing system, the feedback mechanism and the ranking platform. The Centre also provided and verified data on publications, citations, patents and highly cited papers.

7.7.2. e-NBA: Accreditation Workflow Management System (AWMS): The project, called "Accreditation Workflow Management System (AWMS)" is related to the accreditation of the technical institution's programme. The Centre is involved to develop a full-fledged online platform of accreditation workflow management system for technical institutes based on requirements provided by the National Board of Accreditation since 2018.

7.7.3. Atal Ranking of Institutions on Innovation Achievements (ARIIA): ARIIA is an initiative of MOE to systematically rank all major higher educational institutions and universities in India on indicators related to "Innovation and Entrepreneurship Development" amongst the students and faculties. The INFLIBNET Centre has successfully executed the 2nd year exercise of Atal Ranking of Institutions on Innovation Achievements (ARIIA) framework which was launched by Hon'ble Vice President of India on 18th August 2020 during the report period. The Centre is a technical partner of ARIIA project and has signed MoU with AICTE for the same.

7.7.4. 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 since November 2017.

7.8. VIDWAN and Indian Research Information Management System (IRINS)

7.8.1. VIDWAN: Project assigned to the INFLIBNET Centre in May 2014 by NMEICT. VIDWAN consists of detailed profiles of more than 85865 faculty members and scientists working in 9148 academic institutions. The VIDWAN project retrieved 12 lakhs of publication metadata from various sources.

7.8.2. Indian Research Information Network System (IRINS): Project assigned to INFLIBNET Centre from MOE under NMEICT Phase-II in 2018. IRINS is a Web-based Research Information Management (RIM) service provided to higher education institutions in India. IRINS 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. The INFLIBNET Centre created 280 IRINS instances and connected 52478 faculty members through this project. The project retrieved 9.36 lakhs of publication metadata from various sources and received 107 lakhs citations during the period under report.

7.9. INFLIBNET's Website Development and Maintenance

The Centre maintains a comprehensive website of its own both in English and Hindi available at https://www.inflibnet.ac.in/. 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 all services and products. Web 2.0 features and functionalities including Wiki, Blog, Chat and Discussion Forum, RSS feed, etc. have been incorporated into the Website. Also, the Centre maintains an Intranet Portal for storing & easy access to various official documents like rules and regulations, office circulars & notices, committees' details, list of holidays & presentations, etc. at one place; and an IHRMS Module (INFLIBNET Human Resource Management System), a web-based interface which facilitates routine administrative activities.

7.10. Web Portals & Websites of Various Government Initiatives and Institutions

The Centre maintains several websites & portals for various Government Initiatives/Agencies as a part of the assigned projects to the Centre.

7.10.1. YUKTI Portal: The INFLIBNET Centre developed a dedicated portal called YUKTI (Young India Combating COVID with Knowledge, Technology and Innovation). It intends to cover the different dimensions of COVID-19 challenges in a very holistic and comprehensive way. It covers the initiatives and efforts of various academic institutes related to Coronavirus.

7.10.2. 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 the portal is the institute login (where institutes can define their seats to the foreign students) and student login (where a registered student can participate in the choice filling, including mock counselling and final counselling).

7.10.3. Ek Bharat Shreshta Bharat (EBSB): A portal hosts details of events being organized by different states. Events include a 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.

7.10.4. Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNMTT): PMMMNMTT is a Scheme launched by the Ministry of Human Resource Development, Government of India. The aim of the scheme to improve the quality of the school and higher education by addressing comprehensively all issues related to more than 1,00,000 college and university teachers, teaching, teacher preparation, professional development, Curriculum Design, Designing and Developing Assessment. INFLIBNET Centre is providing web and technical development support.

7.10.5. National Testing Agency (NTA): INFLIBNET Centre provides website development and technical support to NTA. The portal facilitates a platform that automates the complete administration and management process of "Exam Observer", "Training Practice Centre", Mobile-app, etc.

7.10.6. Activity Portal for Association of Indian Universities (AIU), New Delhi: The INFLIBNET Centre has developed an activity portal for Association of Indian Universities (AIU) that was launched by Shri Ramesh Pokhriyal 'Nishank' on 17th August 2020. The AIU portal will provide value-added services to its members in terms of completely automating the equivalence of foreign degrees with Indian Universities.

7.10.7. National Portal for Transgender Persons (Ministry of Social Justice and Empowerment)

The portal "transgender.dosje.gov.in" enables a transgender person to apply for a certificate and identity card digitally from anywhere in the country, without having to visit any office. The most important benefit is that it helps the transgender person to get the I-Card without any physical interface and without having to visit any office. Through the Portal, they can track/monitor the status of their application and register their grievances in case of delays that ensure transparency in the process as well.

7.10.8. Kendriya Vidyalaya Sangathan Module for HRM Office, MoE:
The INFLIBNET Centre completed the task of developing the Kendriya Vidyalaya Sangathan Module for the HRM Office, Ministry of Education, New Delhi. It helps the KVS authorities to make decisions to allocate ministerial quota seats in KVSs.

7.10.9. Other Institutional Website Development and Maintenance

The INFLIBNET Centre maintains several Indian Institutes/Universities websites starting from their development, management, and hosting as a part of the Institute's assigned project to the Centre.

7.11. UGC Website and e-Governance @UGC

7.11.1. UGC Website:
The UGC has assigned the responsibility for the development and maintenance of its website to INFLIBNET Centre, which includes automation of its various schemes, Grant Management System and e-Scholarship-Fellowship Award Registration Tracking System (e-SARTS) etc.

7.11.2. e-Governance @UGC-Schemes:
INFLIBNET Centre has developed more than 30 web services for UGC for its scholarship, fellowships, travel assistance, General Development Assistance, Women's Hostel, Autonomous and Heritage institutions, Distance Education, etc.

7.11.3. Development of Web Portal for Distance Education Bureau – UGC:
The INFLIBNET Centre has developed a web portal for Distance Education Bureau - University Grants Commission. The main aim of the portal is to automate all the UGC - DEB activities.

7.12. Human Resource Development, Capacity Building Programmes & Consultancy

Since its establishment, INFLIBNET Centre has actively involved in various capacity building programmes, i.e. in-house and off-site workshops, conferences, seminars, specialized training programs etc. To date, the Centre has trained a total of 84,129 professionals through 828 such programmes. During the Covid-19 pandemic period under report, the Centre conducted 98 online short-term and long-term training programmes/workshops including webinars, awareness and other collaborative programmes that were attended by a total of 39,387 participants.

7.13. Publications

The INFLIBNET Centre has two major publications, i.e. Quarterly INFLIBNET Newsletter and Annual Report. Both publications are downloadable in PDF and e-book format available at the "Publications" page of the INFLIBNET Centre website at https://www.inflibnet.ac.in/publication/. The copies of Annual Reports, PLANNER and CALIBER proceedings, and publications like articles, conf. papers, user guides and manuals published by Scientists & staff members of the Centre are also available through the Institutional Repository (IR) of the Centre at https://ir.inflibnet.ac.in.

Part - II

Activities and Major Services of the INFLIBNET Centre

INFLIBNET Activities at a Glance

Sl. No.	Activities, Services and Projects	Year of Commencement	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		199	1,14,80,023
	No. of Contributing Universities/No. of Serials		229	35,234
	No. of Contributing Universities/No. of Theses		444	4,41,141
	Access: **Available in Open Access to the worldwide community**			
2	**IR@INFLIBNET: Institutional Repository**	2004		1,859
	Access: **Available in open access to the worldwide academic community**			
	Usage: Collection Views			43,428
3	**Training and Workshops (including IRTPLA, e-Resource Awareness, DSpace, Shodhganga, Bibliometrics & Other Specialized Programmes/Webinars)**	1991		98
	Total No. of Participants/Delegates			39,387
	CALIBER - International Convention by INFLIBNET Centre	1995		12 International
				09 National
	No of Delegates/Participants attended CALIBERs			7,475
	PLANNERs - Special Programme designed for North East Region	2003		11
	No of Delegates/Participants attended PLANNERs			2,630
	PDS - No. of Programmes **(Regional Programmes)**	2019		15
	PDS - No. of Participants			3363
4	**SOUL 2.0: Library Automation Software / No. of Installations**	2009		3843
	SOUL Training programmes conducted	2000		160
	Participants trained in SOUL			3372
5	**Shodhganga: A Reservoir of Indian Theses**	2010		
	MoUs Signed in the Period mentioned			62
	Total MoUs Signed till **31st March 2021**	(Univ+CFTI)		596
	No. of Theses Received (2020-2021)			30,499
	Total Number of Theses in Shodhganga			299499
	No. of Contributing Universities/Institutes			490
	E-PG Pathshala: e-Content for PG Courses	2011		

6	No. of Subjects		70
	No. of Modules (e-text)		23000
	No. of Modules (video)		23000
	Access: **Available in open access to the worldwide academic community**		
7	**Shodhgangotri: Repository of Approved Synopsis for Doctoral Dissertation Thesis**	2013	
	No. of Synopsis/MRPs/PDFs/Fellowships	Total	8131
		2020-21	48
	No. of Contributing Institutions		87
8	**VIDWAN: Database of Experts with their Research Publications**	2013	
	No. of Expert's Profiles		85865
	No. of Contributing Institutions		9148
	Access: **Available in open access to the worldwide academic community**		
	Usage: Pageview (VIDWAN & IRINS)		48,71,135
9	**IRINS: Indian Research Information Network System**	2018	
	Total Instances		280
	MOE funded Institutions		142
	No. of Profiles created		52478
	No. of Publications Metadata retrieved		936856
	Access: **Available in open access to the worldwide academic community**		
10	**Vidya-mitra: Integrated Repository of all e-Content Project Repository of all MOE e-Content project funded by the MOE**	2013	
	No. of e-Text		44450
	No. of e-Tutorials		66174
	Other e-Materials		37827
	Usage: Pageviews (Vidya-mitra and e-PG Pathshala)		
11	**India Rankings (NIRF)**	2015	
	No. of Institutes participated for India Rankings 2020		5805
	No of Disciplines		10
12	**ICSSR Data Service: Platform to host Datasets from MoSPI**	2015	
	No. of Datasets		140
	Usage: Total number of resources downloads		46,55,410
	Total No. of Views		2,62,52,783
	Total Registered Users		4,270
13	**e-ShodhSindhu: Access to e-Resources (e-**	1st December 2015	

	Journals, e-Books and databases) to Indian Institutes	(2016)	
	No. of Core Members (CFTIs)		98
	No. of Core Members (Universities)		217
	No. of Technical Institutes (AICTE)		134
	No. of e-Journals		7,096
	No. of Bibliographic Databases		4
	No. of e-Books (through NDLI)		6,00,000
	Usage: No. of Full-text downloads (Jan-Dec 2020)		81,51,992
	N-LIST: e-Resources to Colleges		
	No. of Colleges		3,198
	No. of e-Journals		6,150
	No. of e-Books		7,64,300+
	Usage: No. of User ID Created for Access		4,07,891
14	**ShodhShuddhi: Plagiarism Detection Software: No of Institutions Covered**	2019	
	No. of Universities given access to anti-plagiarism software URKUND under ShodhShuddhi		1040
	Number of Documents scanned for Plagiarism check under MOE scheme ShodhShuddhi		11,15,743
	No. of Users created		1,05,765
15	**SWAYAM: Massive Open Online Courses**	2016	
	No. of Courses Offered by INFLIBNET in LIS as Anchor Institute	15 Weeks Course	1
	Web Application (UGC MOOCs & Platform for Expression of Interest)	Open Access	
16	**SWAYAM Prabha: 34 Academic DTH Channels**	2017	
	No. of Channels		34
	No. Video Lectures (unique) Higher Education		5402
17	**INFLIBNET Access Management Federation (INFED): Off-campus Access to e-Resources**	2017	
	No. of Institutes Joined INFED		183
	On Production		108
	No. of Publishers		37

1. Automation of University Libraries

The University Grants Commission, on the recommendation of the INFLIBNET Centre, had supported 142 universities during the IX Plan period and 24 universities during the 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 the 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 a 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
(https://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 the current interface of the IndCat.
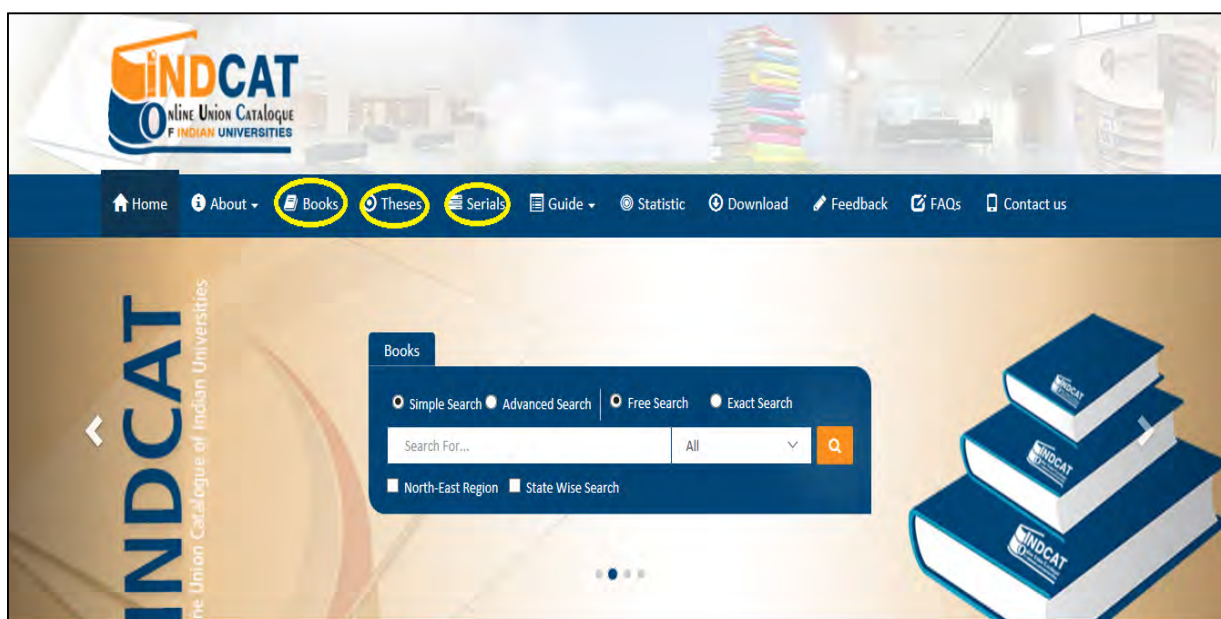

Fig. 1: Interface of IndCat: Union Catalogue of Indian Universities

2.1. Union Catalogue of Books

The Union Catalogue of Book Database covers bibliographic records of books available in the libraries of universities in India. The book database contains 1,14,80,023 unique records of books available in 199 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 the Search Interface for Books.
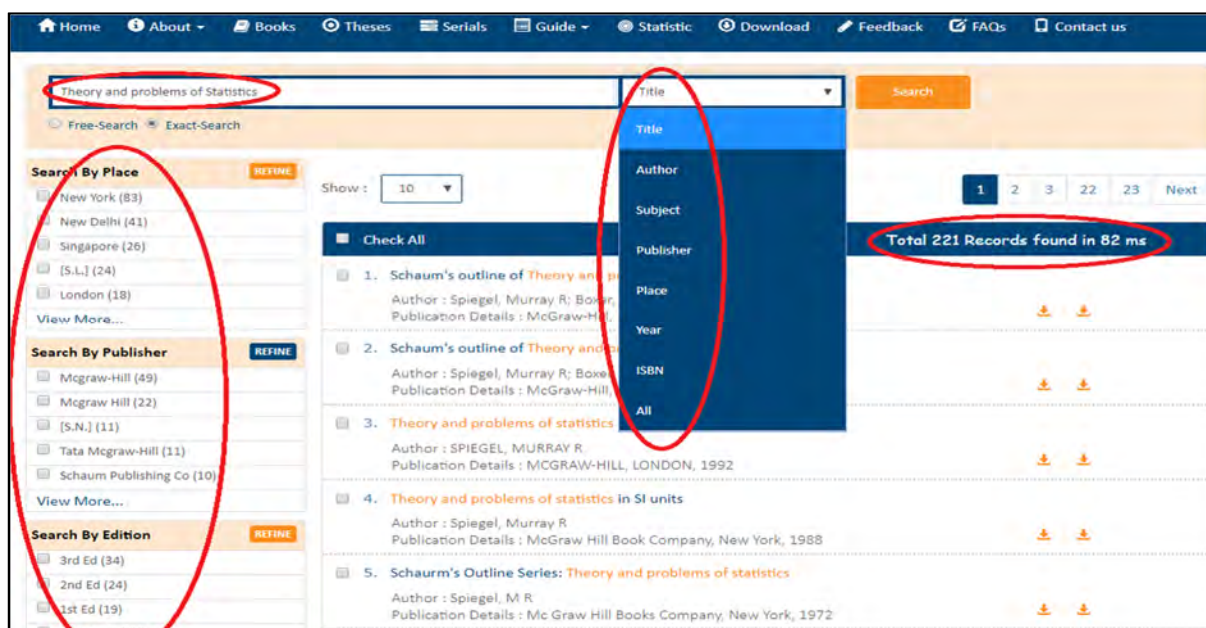

Fig. 2: Search Interface for Books

2.1.1. Process for Building IndCat

Process of building IndCat commences with the creation of bibliographic records in participating university libraries and their receipt at the INFLIBNET Centre. The steps involved in the building of IndCat database is as follows:

Step 1. INFLIBNET Centre receives bibliographic records from Indian universities in MARC or MARCXML format from different library software, such as SOUL 2.0, KOHA, Libsys, VTLS etc.

Step 2. Checking the Data Quality as per the AACR-II Rules and LoC MARC standard. For that using MARCEdit Software and the following fields are mandatory for book database, i.e. Title, Author, Place, Publisher, Year, Edition, ISBN, Pages, Class No., Subject, and Accession.

Step 3. Importing the MARC File converted into CSV format using UCMS 2.0 Application.

Step 4. Importing CSV file into university database using UCMS 2.0 Application and using the following steps:

- Importing CSV file into Database;
- Creating DD String;
- Fetching Holding Details;
- Checking for Duplicate Records within University; and
- Mass Insert from Temp to Main Table.

Step 5. All records go under the process of authentication, using Union Catalogue Management System (UCMS 2.0) Application for editing typographical errors in various fields such as place, publisher, edition, year of publication, etc.

Step 6. Lock Data before Matching and Merging

Step 7. Matching and Merging into IndCat.

Step 8. SOLR Indexing of Merging records

2.1.2. Web interface for Book Database of IndCat

Web interface for Book Database of IndCat facilitates its users to conduct searches on the 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 the 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 the option of ILL request. Fig. 3 depicts the bibliographic details of searched records.

Fig. 3: Bibliographic Details of a Searched Record

2.1.3. 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 university on different search parameters like Title, Subjects, Authors, Place, Publisher, etc.

State-wise Search: Users can search the book database within a State by Title, Authors, ISBNs, etc.

Advanced Search: Advanced search facilitates the 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 MARC 21 and Plain Text format. The downloaded bibliographic records can be imported to any library management software compliant with MARC 21 bibliographic format including SOUL 2.0. Effectively, librarians/cataloguers can copy catalogue bibliographic records of books instead of creating a new record which is a time-consuming and cost-intensive process. Fig. 4 depicts copy cataloguing of a searched record and importing in SOUL 2.0
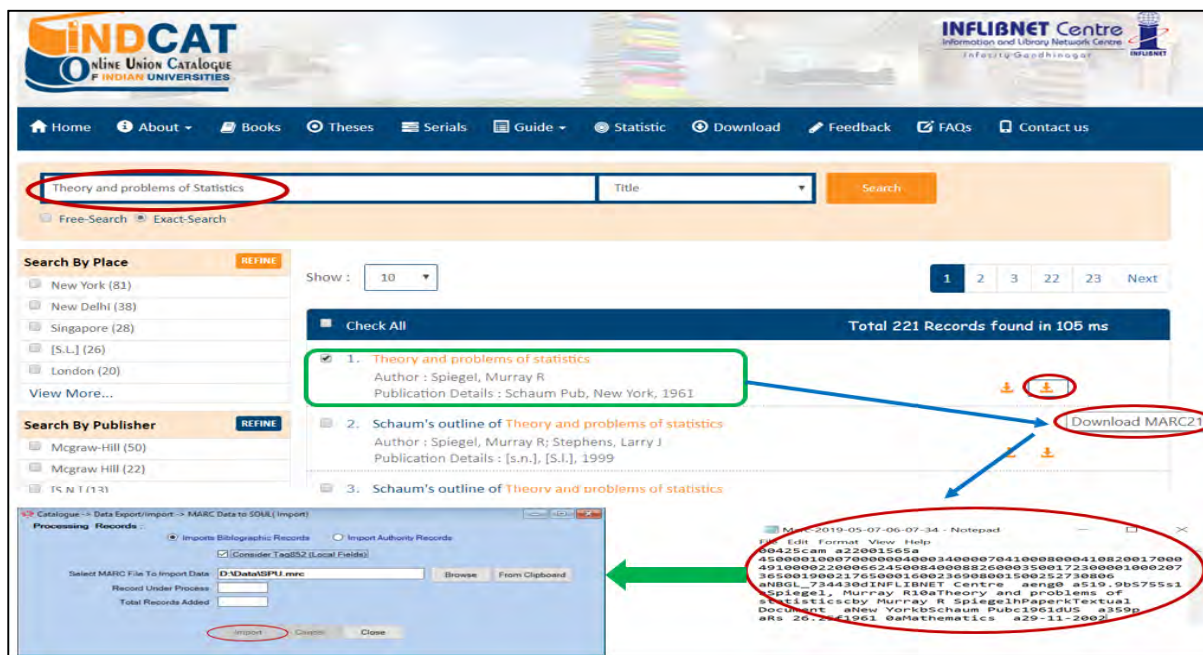
Fig. 4: Copy Cataloguing of a Searched Record and Importing in SOUL 2.0

iii) Regional Union Catalogue of Books

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 a 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 the North-Eastern Region, is another subset of IndCat. NERCat is designed and implemented to restrict the searching of bibliographic records to university libraries in the North-Eastern region, to promote resource sharing amongst university libraries in the North-Eastern region.

2.1.3. Bibliographical Records for Books Added during the Year 2020-2021

During the year 2020-2021, the data of Thirty Seven Universities were checked, authenticated, matched and merged with INFLIBNET`s Online Union Catalogue of Indian Universities (IndCat) using UCMS 2.0 software. Details are given below in Table-1:

Sl. No	University Name	Imported Records	*Duplicate Record	#De-Duplicate Record (Matched)	^Merge Record
1	Andhra University, Visakhapatnam (Andhra Pradesh)	4,03,106	1,11,582	7,441	2,84,083
2	Assam University, Silchar (Assam) (Updated Data)	93,853	8,477	8,731	76,645
3	Babasaheb Bhimrao Ambedkar University, Lucknow (UP)	57,124	16,334	2,571	38,219
4	Banaras Hindu University, Varanasi (Uttar Pradesh)	3,82,822	14,762	1,769	3,66,291
5	Birla Institute of Technology & Science, Pilani (Rajasthan)	2,06,789	54,217	14,044	1,38,528
6	Birla Institute of Technology, Mesra (Jharkhand)	70,003	7,302	13,613	49,088
7	Central University of Odisha, Koraput (Odisha)	18,682	62	2,133	16,468
8	Central University of Tamil Nadu, Neelakudy (Tamil Nadu)	28,452	601	1,878	25,973
9	Chhatrapati Shahu Ji Maharaj University, Kanpur (UP) (2nd Phase)	60,790	1,888	13,701	45,201
10	Chhatrapati Shahu Ji Maharaj University, Kanpur (UP) (3rd Phase)	136	2	8	126
11	Dharmsinh Desai University, Nadiad (Gujarat)	18,219	3,616	109	17,560
12	Dibrugarh University, Dibrugarh (Assam)	1,04,677	7,511	15,248	81,918
13	Dr.Babasaheb Ambedkar Marathwada Univ, Aurangabad (Maharashtra)	2,81,734	7,698	6,001	2,68,035
14	Gauhati University, Gauhati (Assam)	1,51,789	11,804	474	1,39,511
15	Gujarat University, Ahmedabad (Gujarat)	82,453	14,525	56,502	11,426
16	Gujarat Vidyapith, Ahmedabad (Gujarat)	6,81,859	80,393	6,233	5,95,233

17	Guru Jambheshwar University of Science and Technology, Hisar (Haryana)	56,321	7,157	4,076	45,088
18	Hemchandracharya North Gujarat University, Patan (Gujarat)	90,878	11,002	7,081	72,795
19	Himachal Pradesh University, Shimla (HP)	91,544	998	8,925	81,621
20	Indian Institute of Management Indore (MP)	28,814	639	3,355	24,707
21	Indian Institute of Management Kozhikode, Kozhikode (Kerala)	36,863	2,143	4,055	30,665
22	Indian Institute of Management Lucknow (Uttar Pardesh)	44,275	1,321	9,413	33,541
23	Indian Institute of Technology Delhi (IITD), New Delhi (Delhi)	1,76,807	31,516	17,576	1,15,515
24	Jain Vishva Bharati University, Ladnun (Rajasthan)	53,515	5,792	309	47,414
25	Jiwaji University, Gwalior (Madhya Pradesh)	49,081	2,062	2,744	44,275
26	Maharaja Ganga Singh University, Bikaner (Rajasthan)	18,944	5,990	69	10,731
27	Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar (Gujarat)	78,920	8,906	2,731	60,183
28	Maharshi Dayanand Saraswati University, Ajmer (Rajasthan)	55,226	7,291	5,686	42,249
29	Mohanlal Sukhadia University, Udaipur (Rajasthan) (2nd Phase)	1,28,159	9,530	3,338	1,15,291
30	Mohanlal Sukhadia University, Udaipur (Rajasthan) (3rd Phase)	3,368	52	62	3,254
31	Sant Gadge Baba Amravati University, Amravati (Maharashtra)	95,844	2,345	7,216	1,11,883
32	Sikkim University, Gangtok (Sikkim)	13,014	2,327	1,886	8,801
33	South Asian University, New Delhi (Delhi)	10,539	85	1,896	8,558
34	The WB National University of Juridical Sciences, Kolkata (West Bengal)	22,501	6,221	3,321	21,728

35	University of Kota, Kota (Rajasthan)	15,737	635	12	15,090
36	University of Lucknow, Lucknow (UP)	27,572	1,957	3,131	22,484
37	University of Petroleum and Energy Studies (UPES), Dehradun (Uttarakhand)	4,895	428	90	4,359

Table-1: Details of Thirty-Seven Universities' Bibliographic Records Merged with IndCat

Building and maintaining a union catalogue is an ongoing activity involving the 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 rapid growth. The union catalogue of books has grown from 2.7 lakh records in 1999 to 115 lakh records in 2021 as depicted in Table-2 and Fig. 5 given below:

Year	Processed Records (in lakhs)
1999	2.7
2003	5.8
2007	30.3
2011	61.8
2013	73
2015	75.7
2017	83
2019	84.19
2020	95
2021	115

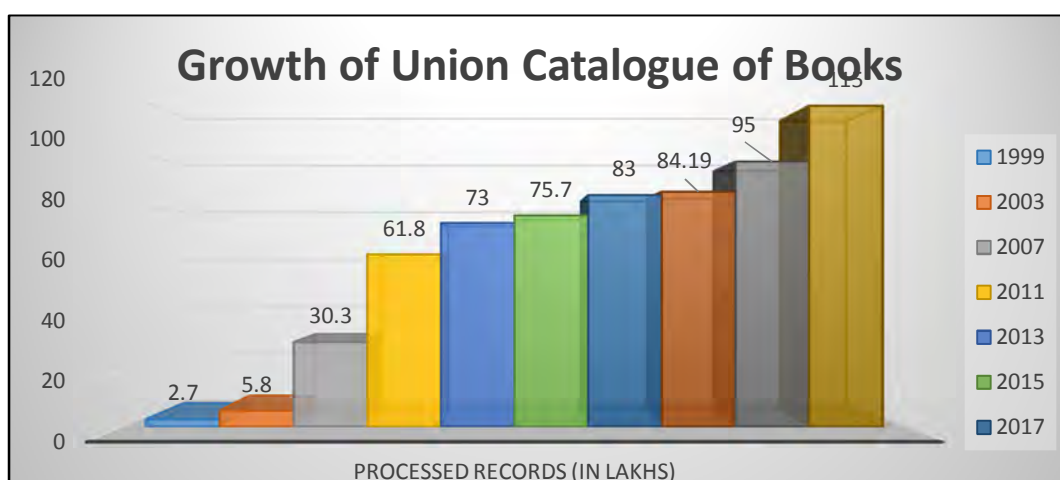**Table-2: Growth in No. of Bibliographic Records in IndCat from 1999 to 2021**

Fig. 5: Growth of Union Catalogue of Books

The union catalogue of books has bibliographic records of documents available in libraries of 199 contributing universities. Category-wise participating universities are given in Table-3 and depicted in Fig. 6.

Categories-wise University List	No. of Universities
12 (B) / 2 (f) State Universities	114
Central Universities	29
Deemed Universities (Receiving Plan Grants from UGC)	19
Centrally Funded Technological Institute	12
2 (f) State Universities	6
Deemed Universities	5
Open University	1
Private Universities	7
Others	6
Total Participated Universities	**199**

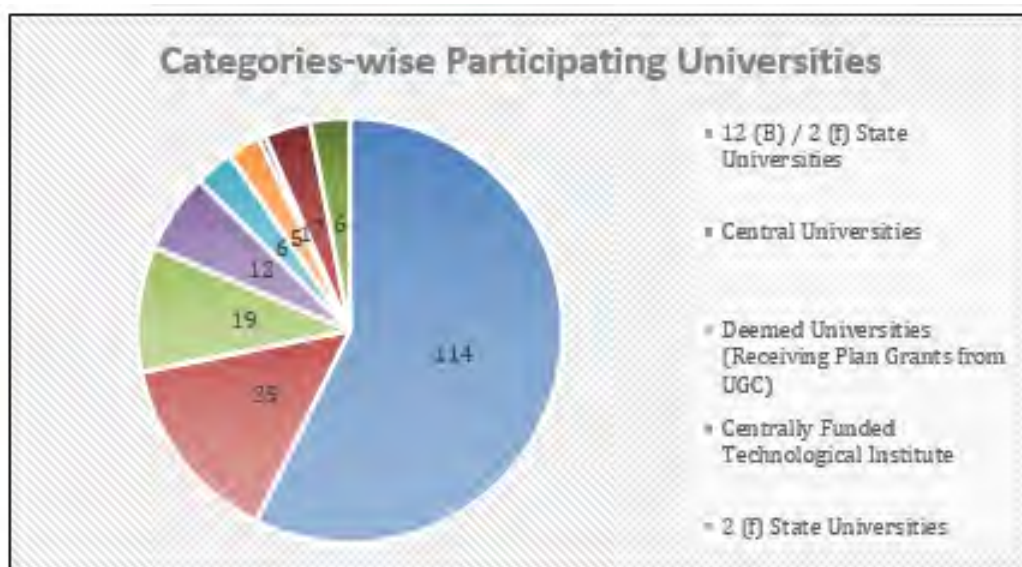**Table-3: Category-wise Participating Universities**

Fig. 6: Category-wise Participating Universities

The union catalogue of books (IndCat) has bibliographic records of documents available in libraries of 199 contributing universities. State-wise participating universities are given in Table-4 and depicted in Fig. 7.

Sl. No.	Name of the States	No. of University
1	Andhra Pradesh	17
2	Arunachal Pradesh	1
3	Assam	5

4	Bihar	4
5	Chandigarh	1
6	Chhattisgarh	3
7	Delhi	8
8	Goa	1
9	Gujarat	22
10	Haryana	5
11	Himachal Pradesh	4
12	Jammu and Kashmir	5
13	Jharkhand	2
14	Karnataka	13
15	Kerala	10
16	Madhya Pradesh	8
17	Maharashtra	17
18	Manipur	1
19	Meghalaya	1
20	Mizoram	1
21	Nagaland	1
22	Odisha	4
23	Puducherry	1
24	Punjab	5
25	Rajasthan	10
26	Sikkim	1
27	Tamil Nadu	14
28	Telangana	2
29	Tripura	1
30	Uttar Pradesh	15
31	Uttarakhand	6
32	West Bengal	10
Total Universities		**199**

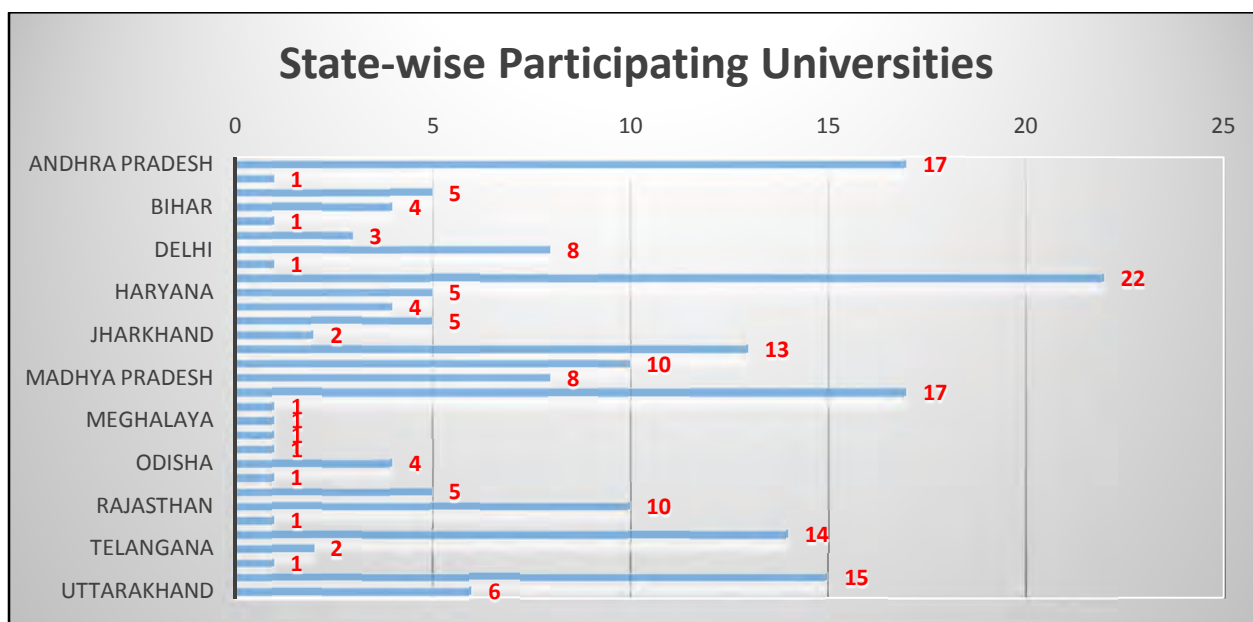**Table-4: State-wise Participating Universities**

Fig. 7: State-wise Participating Universities

2.1.4.   Online Copy-Catalogue System (OCS 2.0)

The Centre has developed the "Online Copy Catalogue System" (OCS 2.0)" for the online contribution of book data for the INFLIBNET`s Online Union Catalogue of Indian Universities (IndCat). It is a subset of IndCat. It is an online cataloguing tool and it is fully supported with SOUL and Other Library Management Software.

OCS is a middleware that works with LMS Server and IndCat Server. The user will be able to submit data directly to the IndCat and can download it from the IndCat server if it is available. This will help the libraries to avoid delay in submitting the data and real-time updates will be displayed on IndCat. The libraries need not submit offline data by sending MARC 21 records or backup files of software.

OCS provides "IndCat" with a simple and advanced search. It gives 'copy', 'edit' and 'create new' options for creating online bibliographic records of book data and then sharing with INFLIBNET`s IndCat, which benefited academic communities around the world.

A total of 21 universities have started online data contributions through OCS Application.

2.1.6.1 Objectives of OCS 2.0:

✓ To contribute maximum bibliographic records for the INFLIBNET`s Union Catalogue (IndCat) through Online mode.
✓ Frequency of use and usefulness of OCS Application among the SOUL and KOHA Users of Indian Universities.
✓ To promote resource sharing activity.

2.1.6.2 Major Features of OCS 2.0:

✔ It is a Window-based application, which communicates directly to IndCat.

✔ It is fully compatible with SOUL and Other Library Management Softwares.

✔ It simultaneously affects the local database and IndCat Server. (So, no need to send offline records frequently to us)

✔ It provides a searching facility using different parameters i.e. Title, Author, Subject, Publisher, Year, ISBN etc.

✔ Facilitate browsing, copy and copy as a new records feature.

✔ Create a new catalogue of books and save it into Library Software and IndCat Server.

✔ It supports multilingual features.

✔ It supports deduplication (Matched), merging and indexing record processes.

2.1.6.3 Main Menus of OCS 2.0 (Soul Compliance) Application:

✔ Login to OCS

✔ Search from IndCat & Copy to SOUL

✔ Copy as a New (Found the record, but required editing in any field)

✔ Copy (Found the record, but not required editing)

✔ Create a New Catalogue (Not found record in IndCat)
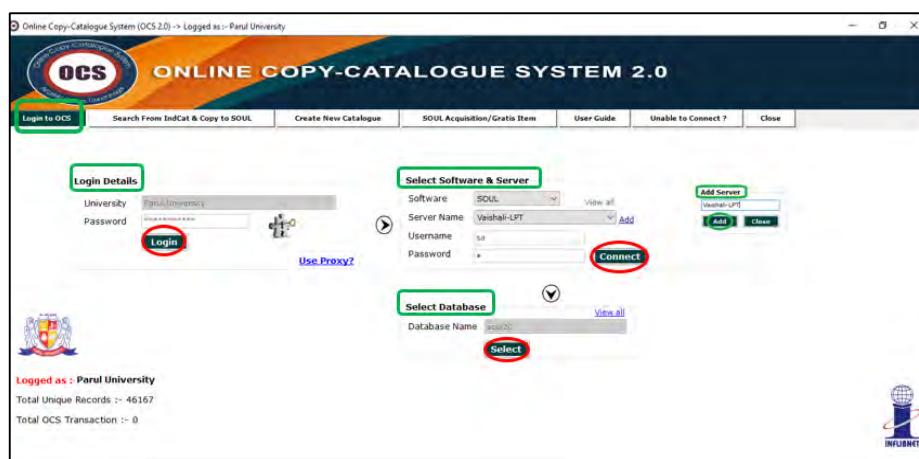
✔ SOUL Acquisition/Gratis Items

Fig. 8: Main Screen of OCS 2.0 (Soul Compliance)

2.1.6.4 Main Menus of OCS 2.0 (Koha Compliance) Application:

✔ Login to OCS

✔ Search from IndCat & Copy to Koha

✔ Copy as a New (Found the record, but required editing in any field)

✔ Copy (Found the record, but not required editing)
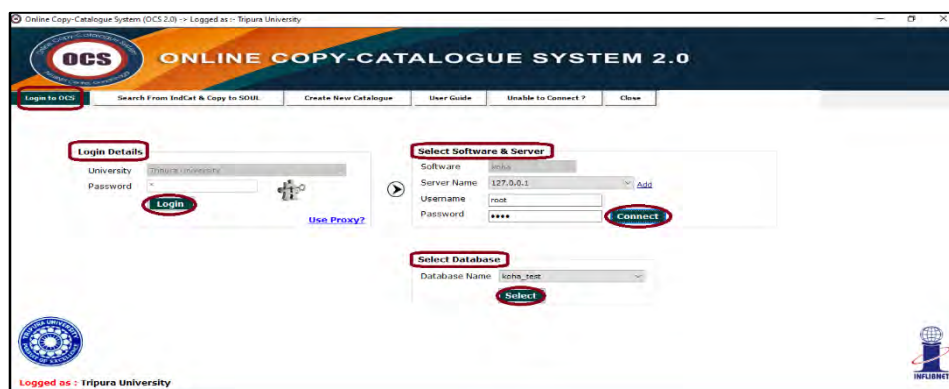
✔ Create a New Catalogue (Not found record in IndCat)

Fig. 9: Main Screen of OCS 2.0 (Koha Compliance)

2.1.6.5 Growth of OCS:

Total 21 Universities have been started online cataloguing through the OCS 2.0 Application and a total of 2796 records have been contributed. Participating universities list with record details are given in Table-5:

Sr. No.	Name of the University	Online Contributed Records
1	Sardar Patel University	2035
2	Hemchandracharya North Gujarat University	187
3	Veer Narmad South Gujarat University	174
4	Parul University	148
5	Saurashtra University	81
6	Maharshi Dayanand Saraswati University	46
7	Gujarat University	30
8	Maharaja Krishnakumarsinhji Bhavnagar University	28
9	Dibrugarh University	12
10	Mohanlal Sukhadia University	19
11	University of Lucknow	6
12	Banaras Hindu University	5
13	Himachal Pradesh University	5
14	Jain Vishva Bharati Institute	5
15	Dr.Babasaheb Ambedkar Marathwada University	4
16	Tripura University	3
17	University of North Bengal	3
18	Dravidian University	2
19	Chhatrapati Shahu Ji Maharaj University	1
20	Maharaja Sayajirao University of Baroda	1
21	Sant Gadge Baba Amravati University	1
	Total Contributed Records	**2796**

Table-5: Participated Universities List with record details for OCS

2.1.5. Union Catalogue Management System 2.0 (UCMS 2.0)

The Centre has developed an in-house application called Union Catalogue Management System 2.0 (UCMS 2.0). It is purely used for the development of Union Catalogue Database. It allows you to build and manage bibliographic records of Indian universities libraries. It supports Unicode multilingual Data and MARC ISO 2709 Structure. It is a windows-based desktop application that is developed on the Microsoft platform. For both front end as well as back end used community versions which are free for developers.

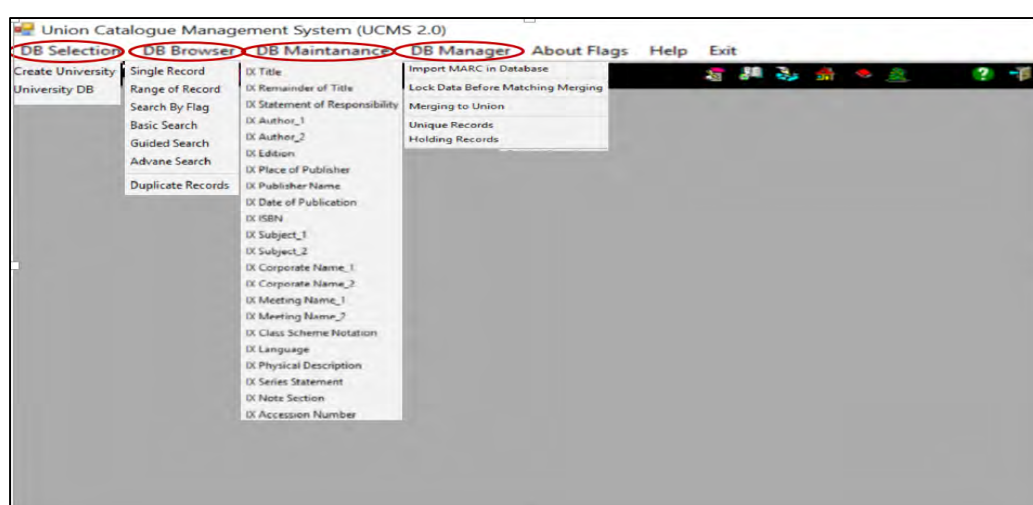### 2.1.7.1. Main Screen of UCMS 2.0 with Main and Sub Menus

Fig. 9: Main Screen of UCMS 2.0 with Main and Sub Menus

2.1.7.2. Features and Functionalities of UCMS 2.0:

Following are the main features and functionalities of UCMS 2.0:

- **Data Import:** UCMS 2.0 provides the facility to Import the Data. Data should be available in MARC format. DDString is being generated at the time of importing the data. Here, a total of 7 fields considered in DD String i.e., Title, SubTitle, Author, Place, Publisher, Year and Edition.

- **Duplicate Check:** It checks duplicate records within the university. If found then it gives the flag "D" and Accession No. is to add in the original record.

- **Duplicate Accession Nos.:** It checks duplicate Accession Numbers also. If found then it gives the flag "DA" and that record is not considered for the next process.

- **Field Browsing:** It provides browsing feature of all the fields i.e. Title (245$a), Author (100$a), Author (700$a), Place (260$a), Publisher (260$b), Year (260$c), Edition (250$a), ISBN (020$a), Class No. (082$a), Subject (650$a), Accession No. (852$p) etc.

- **Authentication of data** (Editing of Typo Errors Globally and Swapping the Values Field to Field)

- **De-Duplicate/Matching Data Process:** It checks the DDString with existing university data. If found the same DDString then it gives the flag "DD". It means that the DD record already matched with an existing record. So, it takes only local holdings details i.e. University Name with Code and Accession No.

- **Merging Process:** If not found the data with existing university records then it gives the flag "M". It means data has been merged with IndCat.

- **Data Indexing:** After completion of the above process university wise data is to be indexed. We used SOLR for data indexing. The indexing process is mainly used for searching and retrieval of the data.

- **Data Availability at IndCat:** After completion of the above processes, the data is readily available on IndCat Web site.

- **Flag-wise reports:** It provides the flag wise reports, i.e. D, DA, DD, M (D – Duplicate Records, DA – Duplicate Accession No., DD – De-Duplicate Records, M – Merged Records).

- **Phase-wise Data:** It provides the process of Phase wise (Updated) Data.

2.1.6. Major Works during the Year 2020-2021

- The data of 37 universities were checked, authenticated, matched and merged with INFLIBNET`s Online Union Catalogue of Indian Universities (IndCat);
- Online Correspondence for the IndCat: We have sent an email to Indian Universities for data contribution for the IndCat and also taken the follow-up by sending reminders and telecommunication;
- Online Correspondence for the OCS: We have sent an email to Indian Universities to Install and start the OCS 2.0 Application for online data and also taken the follow-up by sending reminders and telecommunication;
- The OCS Web Portal is being prepared and major contents have been added. We are in the process to launch the OCS Web Portal shortly;
- Already developed OCS 2.0 (SOUL Compliance) and (Koha Compliance) Application for online data contribution and it provides simultaneously online effect with LMS Server (SOUL, Koha) and IndCat Server;
- We have added more features to UCMS 2.0 which make it a more robust system towards catalogue management i.e. Free Text Search and Character Length wise Search for authenticating the data.

2.2. Union Catalogue of Serials

The INFLIBNET Centre maintains a 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. backfiles 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-ShodhSindhu in electronic format and c) e-journals available in open access mode.

The Serials Database includes bibliographic information of serials (including journals, periodicals, annuals and serials) available in 229 universities/institute libraries along with its holdings information (includes available and missing volumes of the journals) in participating libraries. The serial database has over 35,234 unique titles with holdings information for 229 universities. Each bibliographic record for serials contains the title, publisher, frequency, year of publication, homepage URL and subject headings along with holdings details and names of the universities.

2.3. Union Catalogue of Theses

The Union Catalogue of Theses consists of bibliographic records of doctoral theses submitted to the universities in India. The database contains 4,41,141 unique bibliographic records of the theses awarded by 444 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 the Union Catalogue of Theses commenced in 1995 with 52,000 bibliographic records of theses from 82 universities. The database has grown to 4,41,141 records of theses as on 31st March 2021 from 444 universities over a period of 25 years.

The Centre receives a copy of the notification on the award of PhD theses from different universities across the country. Table-6 and Fig. 10, given below depict the growth of theses database from 1995 to March 2021.

Year	No. of Universities	No. of Records	Year	No. of Universities	No. of Records
1995	82	52,000	1996	95	65,000
1997	110	72,000	1998	134	90,000
1999	149	1,15,000	2000	160	1,28,000

2001	172	1,35,000	2002	189	1,42,000
2003	198	1,48,000	2004	209	1,52,000
2005	211	1,71,176	2006	213	1,75,206
2007	213	1,75,206	2008	237	2,20,206
2009	237	2,20,206	2010	237	2,37,393
2011	245	2,38,475	2012	270	2,44,927
2013	286	2,52,885	2014	298	2,64,628
2015	301	2,65,727	2016	315	2,69,195
2017	315	2,71,581	2018	317	2,74,622
2019	456	4,37,627	2020	443	4,39,101
2021	444	4,41,141			

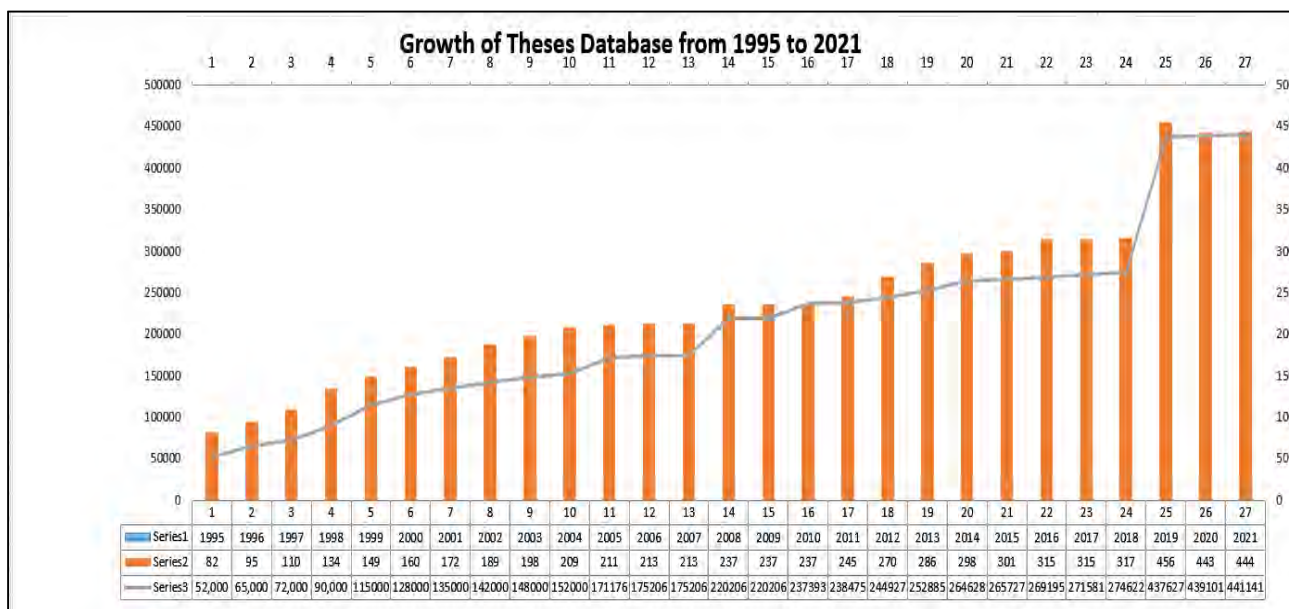**Table-6: Growth in Number of Records in Theses Database: 1995 – 2021**

Fig.10: Year-wise Growth of Theses Database

The number of records and participating universities has increased manifold as new records from the Shodhganga have been imported directly.

Theses database can be searched through the 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.

3. SOUL (SOftware for University Libraries)

3.1. SOUL 3.0 (Latest Version)

The team at INFLIBNET Centre has brought up the new version of the in-house developed Library Automation Software SOUL 3.0 during the period. SOUL 3.0 software was launched by Honourable

Prof D P Singh, Chairman, University Grants Commission, New Delhi on 24th February 2021. It is developed using the latest technologies for the operating system Microsoft Windows 10 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 the user can personalize themes. Users would be able to change the font size, language and other parameters as per their requirement for a better visual and performance experience. Presently the menu in Hindi language has been incorporated with extensive help from Librarian, Banaras Hindu University. The interface can be made available in other Indian languages. The new version has a built-in facility for sending SMS/email for each circulation transaction along with several enhancements. The new version of SOUL is responsive. As such, it will be compatible with touch screen laptops/tablets.

Fig. 11: SOUL 3.0 Dashboard (in Hindi)

During the period under the report, all the modules of SOUL 3.0 application were developed including various utilities such as NCIP 2.0 Server, SIP2 Server, Email & SMS Server, SOUL 3 Server with index creation/updation, Web Services and Web OPAC using Material Design. Many features were integrated with the application including dashboard, webcam integration, exporting Accession Register as TSV, quick retrieval of information from the index, sending Email/SMS, multiple language support, exporting report in PDF, Excel and Word etc.

The centre has prepared a User Manual of SOUL 3.0 which includes all the module-wise operation of SOUL 3.0 with screenshots. It helps SOUL users to perform the day-by-day operations in SOUL 3.0 in a very easy and user understandable manner.

The Centre has developed the utility to migrate the data of SOUL 2.0 to SOUL 3.0. The utility preserves all the data entered in SOUL 2.0 and makes it compatible with SOUL 3.0 for further use.

To ease the installation procedure, the Centre has developed one installer for SOUL 3.0 application. Android-based companion mobile application for web OPAC is developed for users.

Each functionality of the software has been evaluated by an internal core committee specially constituted for the purpose during its multiple meetings, and all the suggestions have been incorporated and verified by the committee.

The Centre has delivered many user awareness webinars on SOUL 3.0 and its new features to institutions across the country.
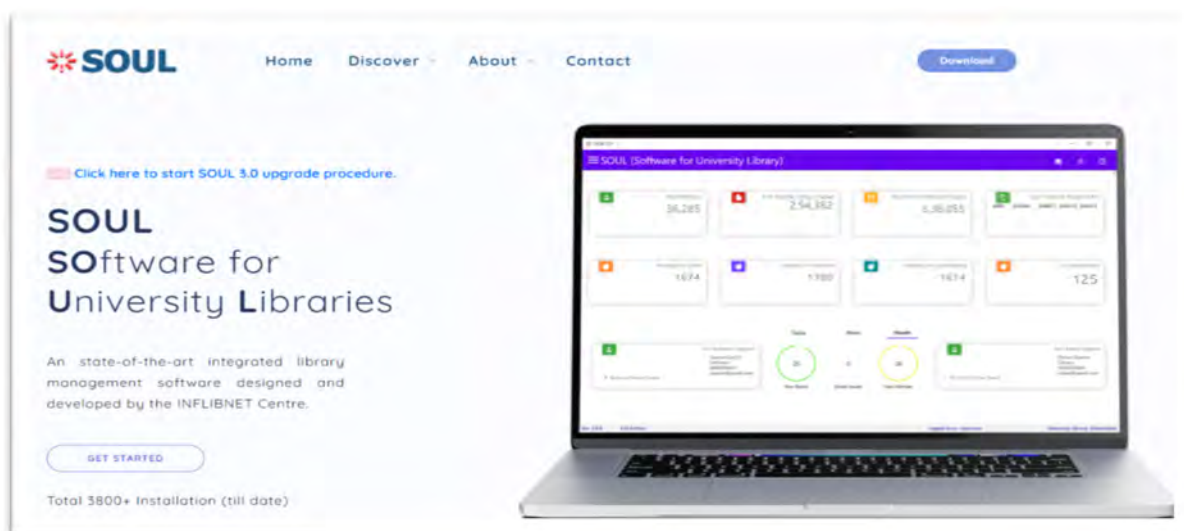

Fig. 12: Website of SOUL

A separate new website has been developed as shown in Fig. 12, maintained by the Centre that provides detailed information about SOUL along with the updates of software.

The SOUL 3.0 application was also deployed for testing at various institutions including major universities i.e., M J College Library, Jalgaon, MP, Gujarat University-Ahmedabad and Lalbaba College – Howrah, West Bengal. Suggestions/ feedback received from various institutions in the test report were implemented in this version of SOUL. The Centre is in the process to upgrade the software for existing SOUL 2.0 users upon their request.

Technologies: Microsoft Visual Studio 2017, WPF, MS SQL 2014, Microsoft Platform

3.2.   SOUL 2.0

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 the requirements of colleges, universities and other academic libraries. It is user-friendly software developed to work under a client-server environment. The software is compliant with 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 housekeeping operations in a library. The software is suitable for academic libraries as well as for all kinds of other libraries. SOUL 2.0 is compliant with international standards such as MARC 21 for the 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. As on 31st March 2021, the software was supplied to 3843 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.

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

3.3. Customization of SOUL 2.0, Data Conversion and Transfer

Customization of the SOUL 2.0 software is offered on a 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 software has been customised as per the requirements of the institutions.

The Centre provides an SMS Server application that facilitates libraries to send SMS through SOUL 2.0 application using SMS Gateway on a payment basis. So far 35+ institutions have started using SMS Server application services integrated with SOUL 2.0 as a customised option. The Centre has started to provide SMS Server free of cost to the institutions.

The Centre also undertakes jobs for converting client's existing data from any format to MARC 21 format for importing it into SOUL 2.0 on a payment basis. During the year under the report, the Centre has converted data from MS Excel to SOUL 2.0 format. About 1.61+ lakhs records from 27 institutes were converted into MARC 21 format.

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

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

3.4. SOUL-Web Edition

The Centre is in the process of developing a web-based version of SOUL based on the requirement collected from the 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 a client so that users can work on any device independently e.g. desktop, laptop, mobile, tablet, etc. Moreover, SOUL web edition could be hosted on a 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, the entire project was migrated to Maven. Maven is a project management and comprehension tool that provides developers with a complete build life-cycle framework. The responsive design of the interface of the client including multi-language and theme support was designed using HTML, JavaScript and CSS. During the period, client application migration to new interface design was started. During the period, an AI-based recommendation system was developed and integrated with a web OPAC interface to provide enhanced search functionality. An authentication mechanism using JWT is explored and implemented in this project. During the period, SRU – search/retrieve via URL (successor to Z39.50) is implemented.

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

3.5. SOUL Software Sold and Upgraded for Existing Users

As depicted in Fig. 13, a total number of 104 copies of SOUL Software were sold during the year under report, which includes 86 copies of Limited Edition and 18 copies of Full Edition. 11 copies of SOUL 2.0 Software installations were upgraded from SOUL 1.0 to SOUL 2.0, which includes 6 copies of Limited Edition and 5 copies of Full Edition.
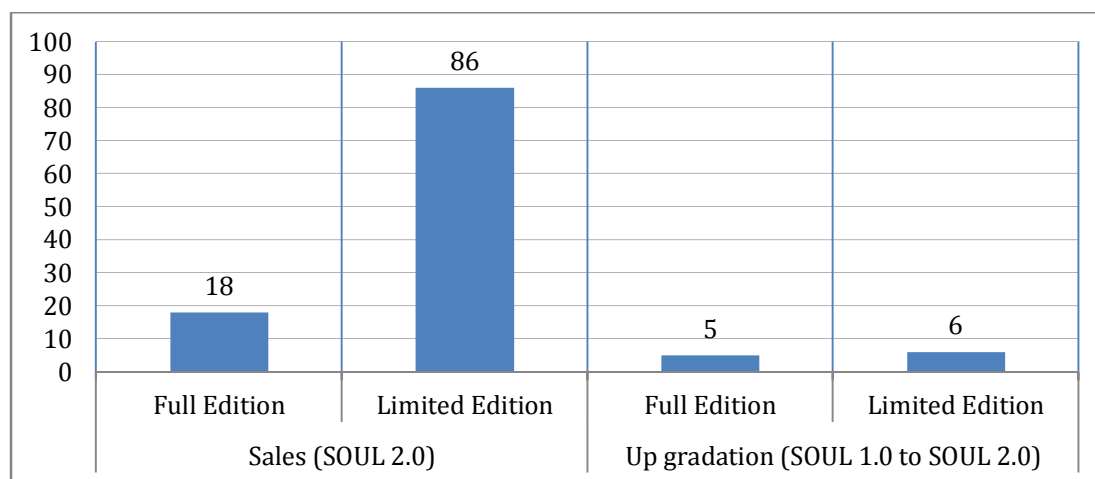

Fig. 13: SOUL 2.0 Sales and Upgradation from April 2020 to March 2021

3.6. SOUL Support Services

SOUL Support Cell is a joint activity of Software Development Group and Human Resource Development Group of the Centre. The SOUL Support Cell helps in handling queries and troubleshooting related to SOUL software, its installation and usage for a user base of 3843 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. 14.
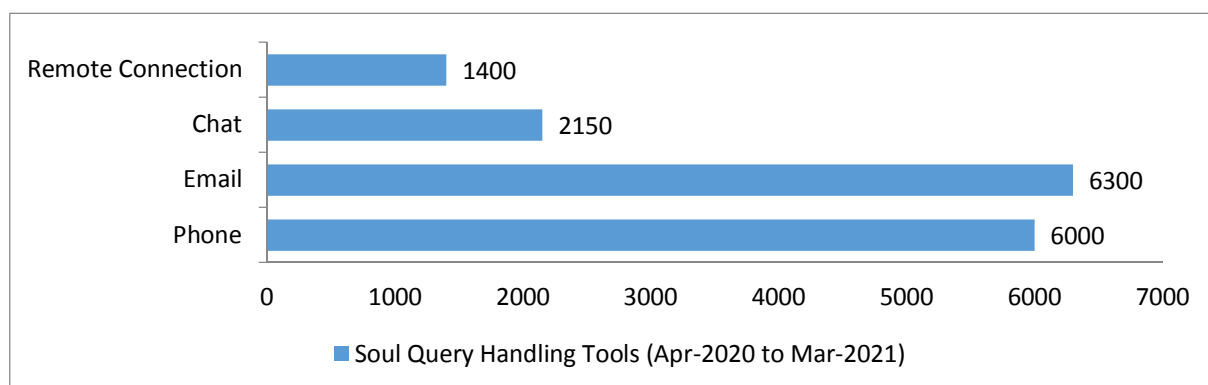

Fig. 14: SOUL Query Handled by SOUL Technical Assistants

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 the 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 the user wants SOUL Technicians to install and upgrade the SOUL at their Institute.

Frequently Asked Questions (FAQs): FAQs were developed based on the prolonged experience of SOUL Technicians. FAQs are answered with screenshot and step-wise solutions 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 new software called "Soul Query Management System (SQMS)" that helps to keep track of problems and queries from all active users of SOUL Software. This software helps to serve the users more efficiently by keeping a record of the queries, their 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 the User Manual to learn the operations of SOUL 2.0 on their own from the SOUL Software website. Users 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.

4.   Open Access, Open Data and Research Support Initiatives

The current system of scholarly communication inhibits rather than promotes 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 the 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 systems.

The open-access initiatives at the INFLIBNET Centre are launched with an aim to spread the 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.   Shodhganga: A Reservoir of Indian Theses & Dissertations
(https://shodhganga.inflibnet.ac.in)

Shodhganga is a digital repository set up in 2010 for submission of electronic versions of theses and dissertations by students/research scholars in universities in India and makes them available in open access to the worldwide academic community in response to the UGC Notification (Minimum Standards & Procedure for Award of M.Phil. / PhD 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 using DSpace, open-source software that uses internationally recognized protocols and interoperability standards. The Centre has developed a separate ingestion interface for easy submission for theses by University Coordinators and Research Scholars. The repository provides a platform to research scholars in universities to deposit, re-use and share their theses and dissertations. Shodhganga initiated in the year 2010 and a total of 1171 Theses were uploaded during that year. Then, after a gap of 5 years that

is till 2016, the number of Theses grown to 1,16,000 in total in which more than 1 Lakh Theses were uploaded in total. After that, it took a gap of only 2 years to reach 2,11,800 Theses in which nearly another 1 lakh Theses were uploaded. Till 31st March 2021, the total number of Theses have reached 299499 (approx.. 3 Lakhs) Theses, which means it took 3 years to add another 1 lakhs Theses in Shodhganga. Fig. 15 depicts the homepage images of the Shodhganga website.

Fig. 15: Home Page Screenshots of Shodhganga

The organisation of theses in Shodhganga reflects the academic structure of every university in the country which offers PhD programmes to facilitate the scholars to submit their theses in the respective Departments / Centres / Colleges of their Universities. The 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 a lesser number of steps in comparison to the default submission interface of DSpace developed by HP and MIT. The interface facilitates the

submission of theses either by university administrators, university representatives or researchers. The Shodhganga website provides information that is helpful to the researchers, research supervisors and university authorities concerning ETDs including their responsibilities, access policies, submission process, metadata structure, a guideline for submission, tutorial, manual, etc.

Shodhganga provides four types of searches on 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 inhouse developed search interface is embedded into Shodhganga consisting of six 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 subjects are extended to the micro-level using Web of Science 260 Categories. For initial coverage, the subjects are taken from the Library of Congress Subject Heading List (LCSH) in the form of Keywords. Fig. 16 and Fig. 16(a) depicts a subject division of Shodhganga.
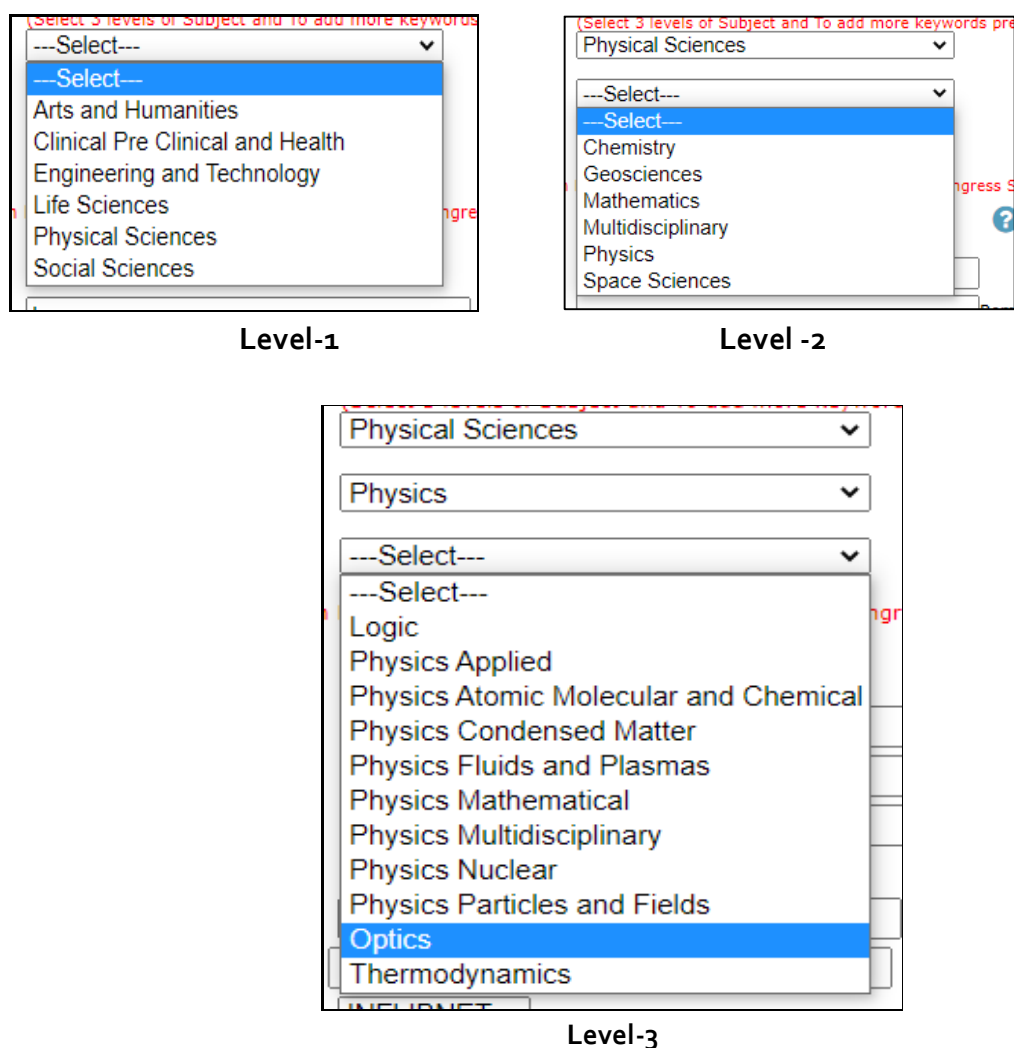

Level-1   **Level -2**

Level-3
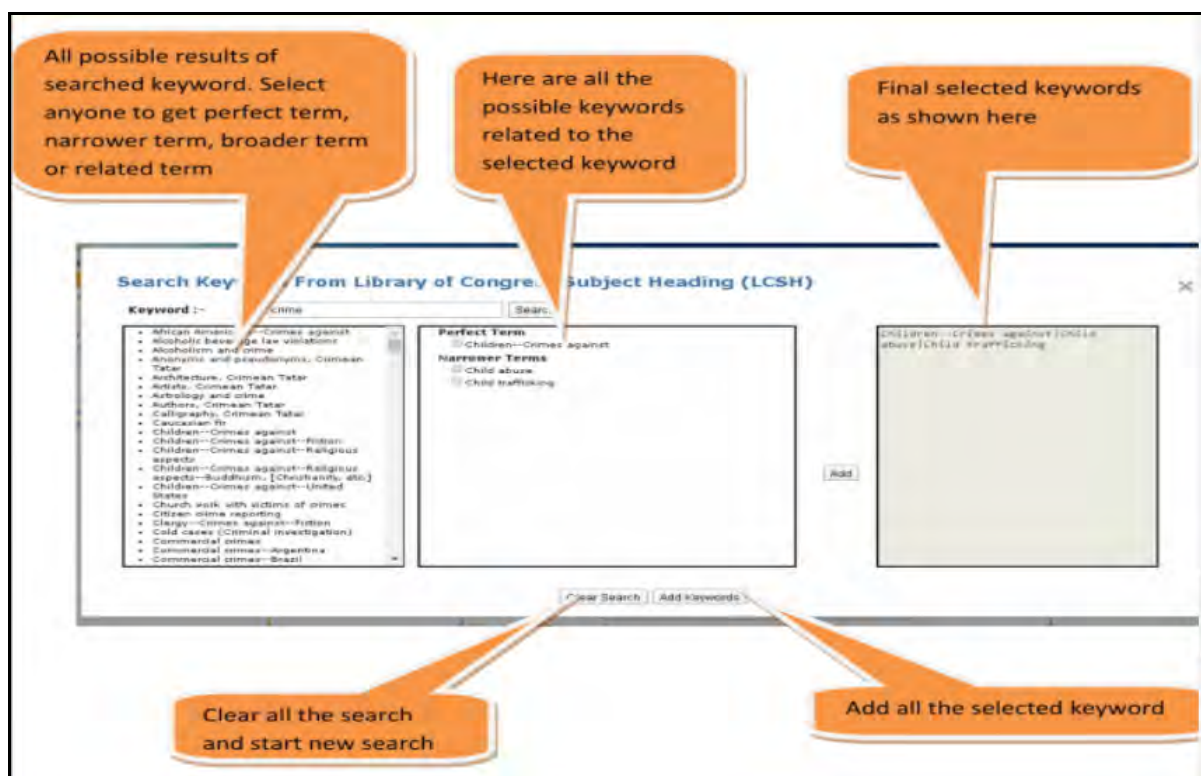**Fig. 16: Subject division Interface of Shodhganga**

Fig. 16 (a): Subjects/Keywords from LCSH Subject Heading List

4.1.1. New Feature Added to Shodhganga Website

As mentioned above, Shodhganga using DSpace as its basic platform is customized by our Centre with an ingestion interface for uploading theses. The basic storage of theses is in the bitstream of Asset Store in DSpace Architecture. Whenever an online query is received, DSpace compiles the bitstream file as a PDF and delivers it to the user. The thesis files are split into various chapters for upload and download to save bandwidth since the beginning. The search results from search engines the long URLs, which generally does not have a title and metadata, this long pending issue is addressed by developing Pop-up citation details with proper metadata. This feature also has the facility to download the citation in a common exchangeable standard format such as BibTeX as shown below in Fig. 16 (b). This has been appreciated by various experts and scholars.

Fig. 16 (b): Citation Details

4.1.1.2. Extraction of Recommendation Chapter

There was a suggestion to figure out the research happenings in various domains as well as to the recommendations made in each discipline to evaluate the research directions and usage.

The Recommendation/Suggestions chapter (s) is now being extracted as a different field from Shodhganga chapters, so that the recommendations and suggestions from all the Theses may be extracted.

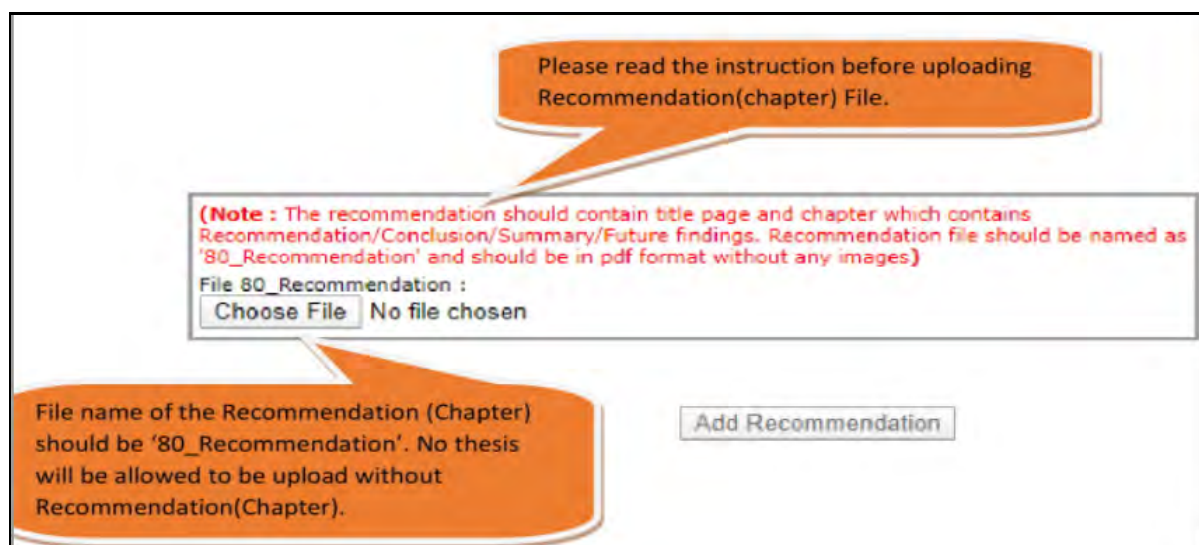**Fig. 17: Extraction of Recommendation Chapter**

4.1.1.3. Restricted Dashboard and Subject Portal

Restricted Dashboard and Subject Portal helps in searching and browsing facilities including various search options like University type-wise, Subject wise, Language-wise, Department-wise, and Year-wise, etc. A sample screenshot is given below in Fig. 18:

Fig. 18: Restricted Dashboard and Subject Portal

Out of 2,99,499 theses analysed on 31st March 2021, Chemistry has the largest number of theses with 26013 theses, followed by Engineering with 18178 theses, Education with 16862 theses. The top 20 subjects theses appeared in Shodhganga is given below in Fig. 19 which also shows Chemistry is leading in research in India:

Top 20 Subjects in Shodhganga (2.99 Lakhs Theses)

Subject	Value
Chemistry	26013
Engineering	18178
Education	16862
Physics	16505
Commerce	14886
Botany	11099
Hindi	11253
Management	10841
Economic	10777
English	10579
Zoology	10418
Mathematics	8463
History	8318
Sanskrit	6259
Computer Science	6127
Biotechnology	5503
Sociology	5357
Political Science	4942
Psychology	4677
Geography	4830

Fig. 19: Top 20 Subjects in total theses uploaded in Shodhganga

Similarly, Language theses are also listed separately, mentioned in Figure 20:

Regional Languages

Hindi (11253) Sanskrit (6259) Tamil (4230) Bengali (1780)

Marathi (1572) Oriya (1018) Gujarati (917) Kannada (909)

Telugu (875) Urdu (815) Punjabi (718) Pali (456)

Malayalam (437) Assamese (385) Manipuri (40)

Foreign Languages

Arabic (480) French (61) German (21) Japanese (2)

German 21 Sanskrit 6259 Malayalam 457 Tamil 4230 Marathi 1572 Japanese 2 Kannada 909 Bengali 1780 Hindi 11253 Punjabi 718 French 61 Oriya 1018 Manipuri 40 Telugu 875 Gujarati 917 Urdu 815 Arabic 480 Assamese 385

Fig. 20: Regional Language Theses

Universities, while signing MoU with INFLIBNET Centre, are granting non-exclusive rights under INFLIBNET Centre for hosting their ETDs in Shodhganga Creative Commons Licence Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0). As on 31st March 2021, (596 universities +CFTIs) have signed MoU with the INFLIBNET Centre which includes 62 universities 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/mou2020_2021.pdf
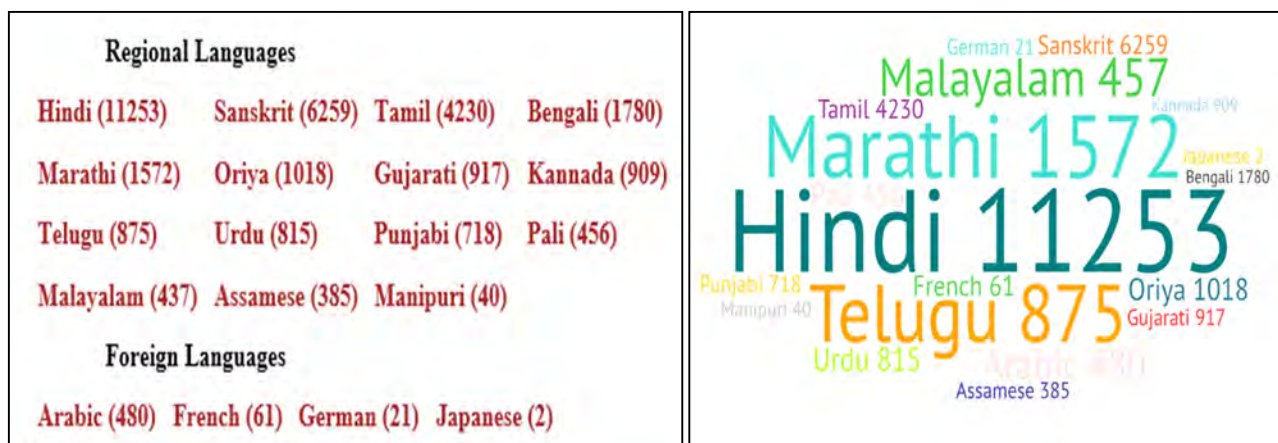
Currently, 490 universities are contributing their theses to the Shodhganga repository as per the UGC Notification. Without signing MoU also, 11 universities are contributing their theses into Shodhganga during the year under report as shown in Table-7:

Sr.No.	University name	Theses count
1	Karnataka Veterinary, Animal and Fisheries Sciences University	102
2	Indian Institute of Technology (Indian School of Mines), Dhanbad	53
3	North Eastern Regional Institute of Science and Technology (NERIST)	29
4	Sri Sathya Sai Institute of Higher Learning	24
5	Maharashtra Animal and Fishery Sciences University	17
6	Guru Angad Dev Veterinary and Animal Sciences University	5
7	Bhupendra Narayan Mandal University	4
8	Jai Prakash Vishwavidyalaya	3
9	Jodhpur National University	2
10	Sabarmati University (Formerly known as Calorx Teachers' University)	2
11	Netaji Subhas Open University	1

Table-7: Contributing Universities without signing MoU

The total number of theses submitted into the repository has grown to 2,99,499 as on 31st March 2021. Fig. 21 depicts year-wise theses submission into Shodhganga.
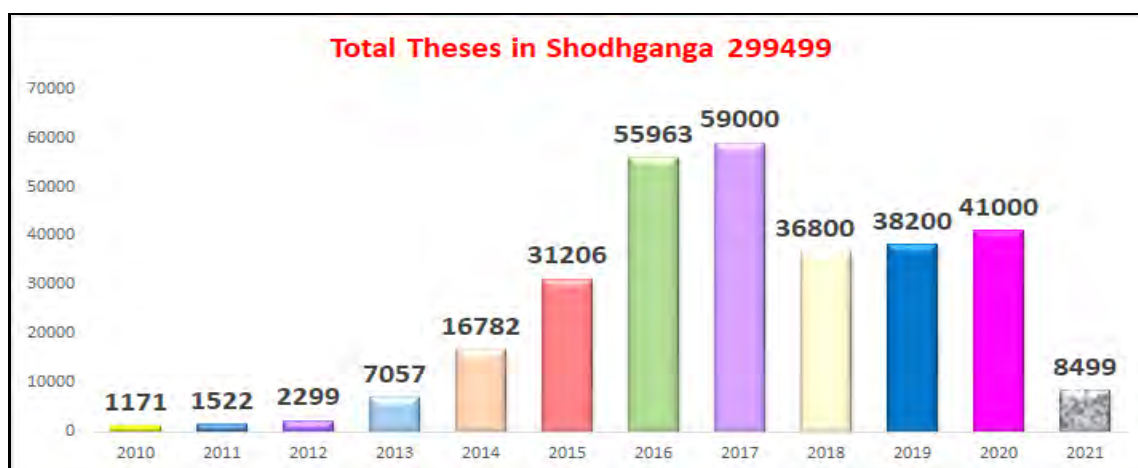
Fig. 21: Year-wise Theses Submission into Shodhganga

Fig. 22 depicts Month-wise submissions into Shodhganga during the period under report. The Month of September witnessed exponential additions even though there was a lockdown.

Fig. 22: Month-wise Theses Submissions into Shodhganga during 2020-2021

4.1.2. Usage Statistics of Theses from Shodhganga

Usage of theses hosted in the Shodhganga repository by the academic community across the world is monitored by the Centre to measure its usage as well as for load balancing of the server. General statistics of Shodhganga including month-wise page views, theses views, department views, university views and website views are shown below in Table-8. The usage has considerably increased with the hosting of the repository on robust infrastructure. The yearly usage summary for Shodhganga for FY 2020-21 is given in Fig. 22.

Views in Lakhs	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Total
Page Views	299.61	296.48	361.97	371.2	425.6	334	222	125	143	142	130	130	2980.86

Theses Views	24.60	31.31	36.07	35.87	35.87	25.88	24.68	30.78	37.50	38.63	35.87	43.66	**400.726**
Dept. Views	6.01	5.46	7.64	6.24	6.86	5.77	5.63	6.10	8.01	9.52	8.14	3.35	**78.72**
Univ. Views	2.18	2.09	2.26	2.19	2.49	2.01	2	2	3.30	3.62	3.19	3.35	**31.19**
Searches	11.52	9.07	8.59	11.99	9.01	8.16	9.10	8.81	11.15	12.72	11.31	12.95	**124.38**

Table-8: Month-wise Usage Statistics of Shodhganga generated by DSpace
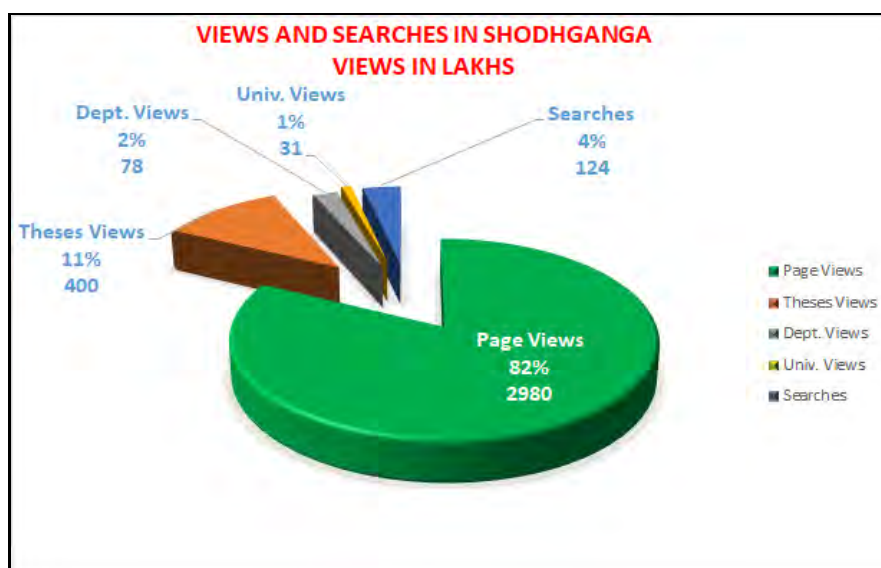

Fig. 23: Views and Searches in Shodhganga for FY 2020-2021

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

The Top 10 theses that were viewed the highest number of times for the 1st April 2018-April 2021 given below in Table-9:

Sl. No.	Title and Its Unique URL	No. of Views
1	SYNOPSIS OF THE THESIS SUBMITTED TO BHARATHIDASAN UNIVERSITY FOR THE AWARD OF THE DEGREE OF (10603/30248) (http://shodhganga.inflibnet.ac.in/handle/ 10603/30248)	44494
2	Humour in Malayalam short stories ഹാസ്യം മലയാള ചെറുകഥയില് (http://shodhganga.inflibnet.ac.in/handle/ 10603/7650)	21581
3	Telugu navala sahithyamulu chitanya sravanti (http://shodhganga.inflibnet.ac.in/handle/ 10603/63376))	21142
4	A study of Karmavipaka Samhita (http://shodhganga.inflibnet.ac.in/handle/ 10603/78407)	18604

5	Students attitude towards entrepreneurship a study of MBA students of management institutes in Pune district (http://shodhganga.inflibnet.ac.in/handle/ 10603/95837)	18468
6	Telugu katha sam D Ramalingam oka samesha (http://shodhganga.inflibnet.ac.in/handle/ 10603/65077)	17662
7	Women freedom fighters in tamilnadu (http://shodhganga.inflibnet.ac.in/handle/ 10603/14211)	16965
8	Intelligent techniques for securing web applications from SQL injections and XSS attacks (http://shodhganga.inflibnet.ac.in/handle/ 10603/13663)	15142
9	A Project Report On Hotel Management System (http://shodhganga.inflibnet.ac.in/handle/10603/98932)	14917
10	Some topics in operations research http://shodhganga.inflibnet.ac.in/handle/10603/74490)	14491

Table-9: Top 10 Theses Viewed in Shodhganga

4.2.   Shodhgangotri: Repository of Indian Research in Progress details (Synopses/ Research Proposals for PhD programme with MRPs/PDFs/ Emeritus Fellowship)
(https://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 PhD programme with MRPs/PDFs/ Emeritus Fellowship). 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 the synopsis in Shodhgangotri to the full-text theses in Shodhganga will be provided. During the year under report, 87 universities contributed their synopses into Shodhgangotri. The total number of synopses submitted into the repository grew to 8131+. From 2019-2020 onwards Minor/Major Research Projects (MRPs) are also available in Shodhgangotri. During the period 2020-21, thirteen MRPs were added in Shodhgangotri.

4.3.   Plagiarism Detection Software (URKUND) under ShodhShuddhi: An Initiative of MOE, Government of India

The MOE through its initiative ShodhShuddhi provides access to Plagiarism Detection Software (URKUND) to all universities including Central, State, Deemed and Private as well as Centrally Funded Technical Institutions (CFTIs) in India through central funding to enhance Academic Integrity in Academic Institutions and to curb plagiarism w.e.f. 1st September 2019. This program is being executed by INFLIBNET Centre Gandhinagar. The Plagiarism Detection Software, i.e. URKUND has been selected based on Global Tender Process. Access to this online software system is based on user Id and Password. The software has been implemented in all identified 1040 Universities/Institutions by creating user ID and Password for each University Coordinators (UC) with

admin rights. The University/Institutions Coordinators are responsible for creating login credentials for their faculty, Research Scholars of their respective University/Intuitions.

During the report period, a total of 7,86,382 documents were submitted for plagiarism checking in PDS. As on 31st March 2021, a total of 11,15,743 documents have been submitted for checking the Plagiarism by 1,05,765 users from 776 Universities Universities/institutions. The rest of the Universities are either using the other software or research programmes have not yet started. The current status of PDS implementation are given below in Table-10 and the Number of Documents Submitted for Plagiarism Check in PDS during the period under report in Table-11:

Total Member Institutions	**1040**
Total Users	1,05,765
Total Documents Submitted	11,15,743
Documents Submitted in Mar '2021 (1 Doc. = 20-A4 Pages)	73391

Table-10: The current status of PDS implementation

Month (April 20-March 21)	No of Documents
Apr-20	31549
May-20	45741
Jun-20	56664
Jul-20	69825
Aug-20	59598
Sep-20	72610
Oct-20	76396
Nov-20	70743
Dec-20	96483
Jan-21	64673
Feb-21	68709
Mar-21	73391
Total	**7,86,382**
Average	**65,531**

Table-11: Number of Documents Submitted for Plagiarism Check in PDS

University Type	No. of Universities	No. of Documents submitted	No. of Users (Receivers)
Central Open University	1	4773	594
Central University	51	162790	8701
Deemed University-Government	34	10773	2296
Deemed University-Government Aided	10	15742	1437
Deemed University-Private	81	91666	13197
Institute of National Importance (CFTI)	140	51730	13550
Institute under State Legislature Act	5	330	101
IUCs of UGC	9	3697	235
State Open University	14	3859	511
State Private Open University	1	0	0
State Private University	327	195194	22559
State Public University	367	575189	42584
Total	**1040**	**1115743**	**105765**

Table-12: Status of PDS (URKUND, now Ouriginal) under ShodhShuddhi as on 31st March 2021

4.3.1. URKUND Becomes Ouriginal and new Webinbox released on 15th March, 2021

PlagScan Anti-plagiarism Software is merged with URKUND and the name is now changed to Ouriginal(https://www.ouriginal.com/) after being acquired by Ouriginal.com. Last year Urkund and PlagScan, two award-winning software solutions with expertise that spans well over three decades, joined forces in their fight towards academic integrity, to become Ouriginal.

Urkund permanently changed the brand to Ouriginal on 15th March 2021. As part of this merger and the subsequent re-brand, it is also released an updated interface of the Webinbox. There are no changes to the existing product that Universities are using today, except that users will have access to login to the new Webinbox interface. At the same time, all users will have access to continue using the existing Webinbox interface.

One key feature that is new and added to the new Webinbox per request from INFLIBNET and the associated Universities /institutions is having the option for receiver users to delete documents. This is one of few selected new functionalities added to the new Webinbox interface.

The Plagiarism Detection Software (PDS–URKUND now renamed as Ouriginal) has been provided to all identified 1040 Universities/Institutions by creating a user ID and Password for University Coordinators (UC) with admin rights.
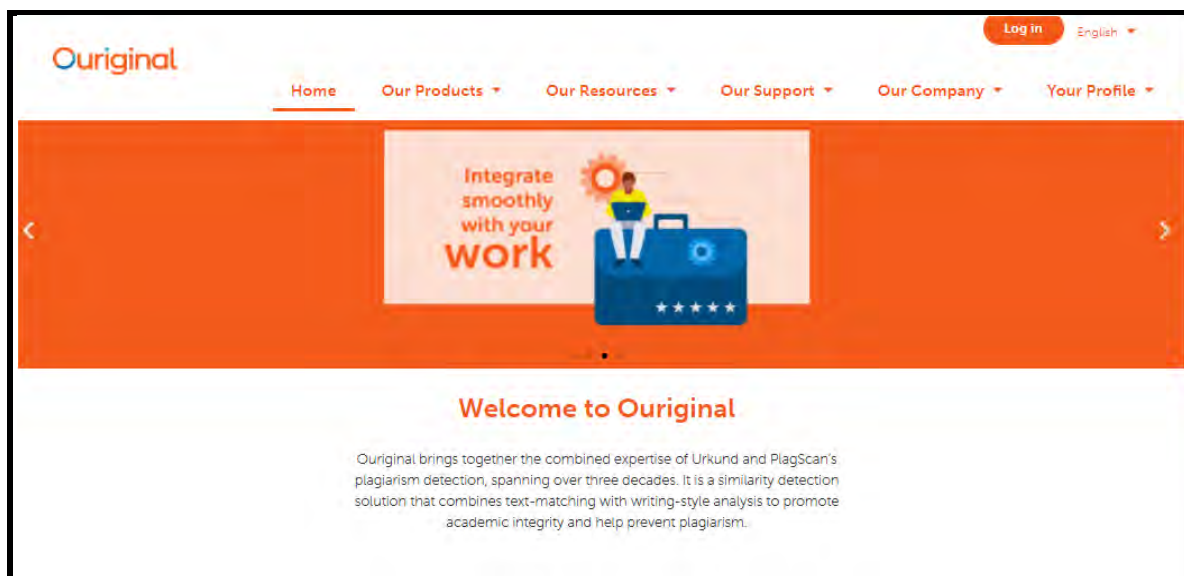
Fig. 24: New Look of Urkund in Ouriginal Web interface

4.4. IR@INFLIBNET (https://ir.inflibnet.ac.in/)

The Centre has established an institutional repository called IR@INFLBNET using DSpace, open-source software accessible at https://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 1,859 full-text articles. The routine tasks like periodic statistics generation and maintenance of the website are performed.

Usage Statistics Apr 2020 to March 2021	
Bitstream Views	7,62,044
Item Views	11,87,672
Collection Views	43,428
Community Views	9,196
Searches Performed	39,92,969

Table-13: Usage Statistics

4.4.1. Institutional Repositories Customizations, Support and Hosting Services

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-14.

Sl. No.	Name of Institute	Services Provided
1	Gulbarga University, Gulbarga, Karnataka	DSpace Installation, Customization, Hosting, Routine trouble-shooting
2	Shree Somnath Sanskrit University, Veraval	DSpace Installation, Customization, Hosting, Maintenance, Routine trouble-shooting
3	Rajiv Gandhi University, Arunachal Pradesh	DSpace Installation, Customization, Hosting, Maintenance, Routine trouble-shooting
4	CEPT University, Ahmedabad	DSpace Installation, Basic and Advanced Customization, Data Import, Routine trouble-shooting
5	Shivaji University, Kolhapur	Maintenance Service (Renewed), Backup, Statistics generation, Log maintenance, Routine trouble-shooting
6	ARAI, Pune	Maintenance Service (Renewed), Backup, Statistics generation, Log maintenance, Routine trouble-shooting
7	Nirma University, Ahmedabad	Maintenance Service (Renewed), Backup, Statistics generation, Log maintenance, Routine trouble-shooting
8	Gujarat University, Ahmedabad	Hosting Service (Renewed), Routine trouble-shooting
9	Krishna Kanta Handiqui State Open University, Guwahati	Hosting Service (Renewed)
10	Mizoram University, Aizawl, Mizoram	Hosting Service (Renewed)

Table-14: Institutions and DSpace Customization Services Provided by INFLIBNET Centre

The Centre has provided hosting services to host INFED Identity Provider to the below Institutes.

Sl. No.	Name of Institute	Services Provided
1	Central University of South Bihar, Bihar	Hosting Services
2	Central University of Jammu, Jammu and Kashmir	Hosting Services
3	Gulbarga University, Gulbarga, Karnataka	Hosting Services
4	Nagaland University, Nagaland	Hosting Services
5	Assam University, Silchar, Assam	Hosting Services
6	Manipur University, Manipur	Hosting Services

Table-15: Institutions & INFED Identity Provider Hosting Services Provided by INFLIBNET Centre

Besides, the Centre also provides proactive help, support to some of the institutions over the phone, email or via remote login to manage and maintain their repositories on their own.

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. The other regular and routine tasks performed are, index generation, periodic statistics generation, log maintenance, database backup and syncing data with a mirror site at a defined frequency, database restore and indexing on mirror site, updating of Shodhganga, Shodhgangotri main website when required, metadata-export, fetching the list of duplicate records etc. The Centre has also prepared material related to Institutional Repository to help Library Professionals to establish the IR on their own. The Centre has also explored some of the new features of DSpace.

The centre has conducted webinars on DSpace and Cloud Hosting for promotion and creating awareness of the services.

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

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, several features and functionalities of the 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 1,740 e-resources.

4.6. ICSSR Data Service: Indian Social Science Data Repository

The INFLIBNET Centre was given a project for setting up a Data Repository for Social Science by the 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 the Data Documentation Initiative (DDI) metadata standard for describing datasets. NADA facilitates importing of existing datasets in DDI format. Fig. 25 depicts the website of ICSSR Data Service.

Fig. 25: ICSSR Data Service's Website

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.

During the period under the report, handled user's queries and resolved the issues they were facing. User activation was being handled by the Centre as depicted in Table-16.

No. of Datasets	140 (93 NSS, 44 ASI, 1 Time use Survey, 2 Economic Census)
Total Registered Users	4,270
Total Number of Downloads	46,55,410
Total Number of Views	2,62,52,783

Table-16: Queries Handled by the INFLIBNET Centre

4.6.1. ICSSR Data Analytic Tool

The Centre has developed an "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. 26. This tool is developed using the "R" language to facilitate advanced analysis and visualization of datasets. Various operations (like maintaining the uniform key variable name, removing duplicate fields) were performed on each block of the dataset for making the ICSSR Data Analytic Tool functional. Users can perform several

analytical operations by using this tool such as univariate analysis, data transformation, cross-tabulation and pivot analysis. Users can visualize the resultant data using various charts like histogram, bar plot, stacked chart, column chart, heat map, etc. Apart from this, the user can generate a map of state-wise data derived through analysis.

Fig. 26: ICSSR Data Analytic Tool

5. Library Consortium and its By-products: e-ShodhSindhu, InfiStat, J Gate Plus and INFED

The Centre is responsible for executing consortia, namely e-ShodhSindhu including 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 in India. Two separate entities within the umbrella of e-ShodhSindhu 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.

For the year 2021, the consortium subscribed to the existing 17 resources available through central funding for eligible institutions during 2020. The total number of resources to be made available through central funding includes 7096+ journals and four databases for Universities/CFTIs. e-ShodhSindhu continued to provide current as well as archival access to these peer-reviewed journals and bibliographic/citation databases in different disciplines from several 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.

5.1.1. Governance

The Ministry of Education (MoE), Government of India has constituted three national committees consisting of MoE officials, representatives of member institutions and experts in the library and information science. The composition of these three committees and their role and responsibilities are given below.

5.1.2. National Advisory Committee

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

5.1.3. National Steering Committee

e-ShodhSindhu 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 the National Steering Committee is given in **Appendix VIII**.

5.1.4. Joint Negotiation Committee

The Joint Negotiation Committee is constituted by the MoE for negotiating rates of subscription to e-resources. The current composition of the 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-17:

Sl. No.	Category	No. of Institutions
1	12 (B) / 2 (f) State Universities	137
2	Central Universities	41
3	Deemed Universities (UGC funded)	21
4	IUCs of UGC	6
5	National Law Schools/Universities	12
	Universities	**217**
6	IITs & IISc	24
7	NITs, SLIET & NERIST	32
8	IIMs	20

9	IISERs	7
10	SPAs	3
11	IIITs, IIEST, NITIE, NIFFT and NITTTR	12
	CFTIs (Total CFTIs)	**98**
	Total	**315**

Table-17: Categories of Institutions Getting Access to e-Resources through Central Funding

In addition, access to five e-resources (ASCE, ASME, Bentham Pharmacy, Web of Science & Scopus) to 134 institutions including Government engineering colleges and universities is provided with funding from the AICTE. The Consortium also provides access to 6,150 e-journals and 7,99,536 e-books to 3198 colleges under the NLIST programme, the college component of e-ShodhSindhu described at 5.9. The list of institutions included in various categories of institutions given in Table 18 and the list of colleges are listed at https://nlist.inflibnet.ac.in/collegelist.pdf.

Other Higher Education Institutions can join the Consortium through an 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 e-ShodhSindhu through the Committees mentioned above. It coordinates all activities concerned like negotiation, renewal of the subscription to e-resources and subsequent troubleshooting on behalf of the member institutions. e-ShodhSindhu also promotes cooperation amongst member institutions and facilitates better terms of references for the use and preservation of subscribed electronic resources.

5.3.1. Coordination, Negotiation and Licensing of e-Resources

The consortium coordinates 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 the subscription of e-resources. The INFLIBNET Centre also signs a license agreement with the publishers on behalf of the member institutions of e-ShodhSindhu.

5.3.2. Mode of Access to e-Resources

The Consortium coordinates 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 & Shibboleth IDP 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 the NLIST Programme. The Consortium has developed an online interface for the creation, updating 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 INFLIBNET Centre maintains a comprehensive website of e-ShodhSindhu programme 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. e-ShodhSindhu website provides options for searching and browsing subscribed journals, searching for member institutions and viewing the e-resources subscribed for them by the consortium. The member institutions can also download a list of journals available under various e-resources in .xls format, which in turn, can be used for updating their local library systems. Fig. 27 depicts the home page of e-ShodhSindhu website.
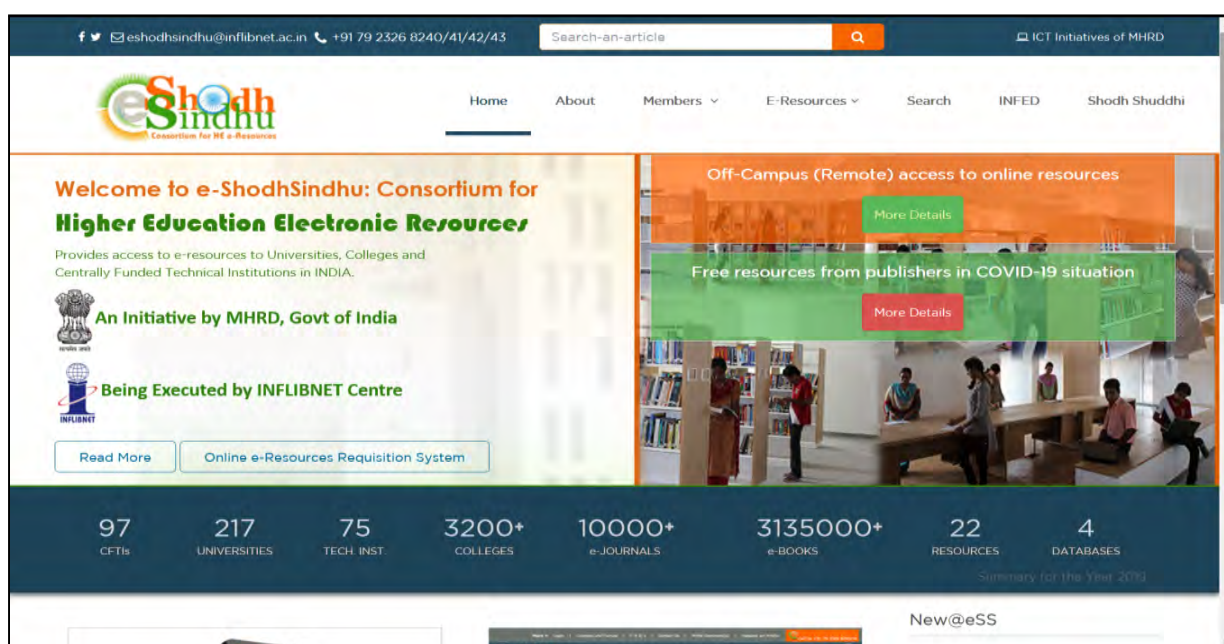

Fig. 27: e-ShodhSindhu Website

5.3.4. InfiStats: Monitoring of Usage of e-Resources

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 the "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 stores it in a database on the 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. 28 depicts the home page of the InfiStats website. The Consortium is maintaining only COUNTER R5 usage for member institutions from January 2020 onwards.
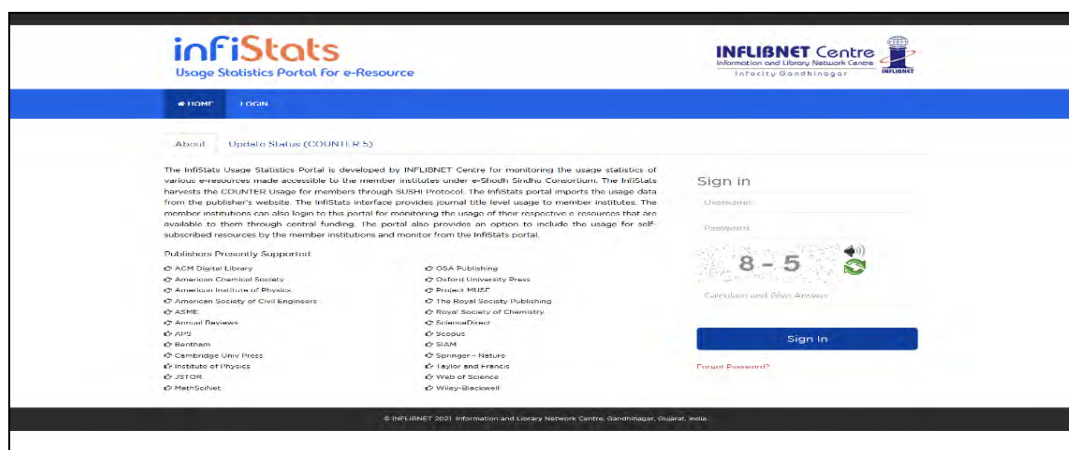

Fig. 28: InfiStats Website

5.3.5. Off-Campus Access to e-Resources

While IP-based access is the 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 limitations 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. 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 providing them seamless access to e-resources from anywhere, anytime. More details about INFED is available in **5.10**.

5.4. Electronic Resources

The Consortium has negotiated rates of subscription for several electronic resources covering all major subject disciplines being taught in CFTIs, universities and colleges. It includes a 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, the remaining 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.

5.5. Major Achievements of e-ShodhSindhu

As on 31st March 2021, a total number of 3198 member colleges are getting access to resources subscribed under the N-LIST programme.

The list of resources available to member institutions of e-Shodh Sindhu is listed in below Table-18.

Sl.No.	Name of Resource	No. of Titles	Category of Institutions 2021
1	JSTOR	3000+	Univ. + CFTIs + Colleges
2	EPW	1	Univ. + CFTIs + Colleges
3	JGate Plus (JCCC)	DB	Univ. + CFTIs
4	Oxford University Press	262	Univ. + CFTIs + Colleges
5	ASME Journals Online	33	CFTIs
6	ASCE Journals Online	36	CFTIs
7	ACM Digital Library	154	CFTIs
8	AIP - eSS Collection	19	Univ. + CFTIs + Colleges
9	APS - eSS Collection	17	Univ. + CFTIs
10	ISID Database	DB	All
11	Web of Science/LA	DB	Univ. + CFTIs
12	Annual Reviews	43	Univ. + CFTIs + Colleges
13	Project Muse	731	Univ. + CFTIs
14	MathSciNet	DB	Univ. + CFTIs
15	Springer Link + Nature journal	1724	Univ. + CFTIs
16	Taylor and Francis	1076	Univ.
17	American Chemical Society	49	Univ.
18	Royal Society of Chemistry	23	Colleges
19	Institute of Physics	46	Colleges
20	H W Wilson	3,075	Colleges
21	eBrary e-Books	1.85 Lakhs	Colleges
22	Indian Journals.com	186	Colleges
23	WEL (For NDL)	6.00 lakhs	All
24	South Asia Archives		All

Table-18: e-Resources Made Accessible to Eligible Member Institutions
Univ: 12(B)/Central/Funded Deemed Universities, **Colleges:** Eligible NLIST Colleges
CFTIs: Centrally funded Technical Institutions (IISc, IITs, NITs, IIMs, IISERs, IIITs etc)

The Negotiation Committee of e-ShodhSindhu negotiated rates of subscription for 140 e-resources collections from 47 publishers/vendors and to get the lowest rates of subscription; the consortium renewed the 2021 subscription for existing resources for the existing number of institutions as subscribed in 2021. The consortium also subscribed to additional resources for IIT Jammu & IIT Bhilai and the National Institute of Educational Planning and Administration (NIEPA) is included under core members from the year 2021.

5.6. Funds Released

The Consortium received Rs. 154.61 crores during FY 2020-21 for subscription to e-Resources for Universities/CFTIs, colleges under NLIST Programme.

5.7. 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 purposes. The Consortium analyses the usage using various parameters as mentioned below.

5.7.1. Research Output of Member Institutes Covered under e-ShodhSindhu

The success of a programme depends on the impact that it has on the extent and quality of research carried out in the institutions where access to e-resources is provided through e-ShodhSindhu Scheme. The Centre has measured the research output of 315 member institutes using citation database Web of Science (WoS). A total of 91824 papers are published by 315 member institutes during CY 2020. Member category-wise distribution of papers published by member institutes are given below in Fig. 29.
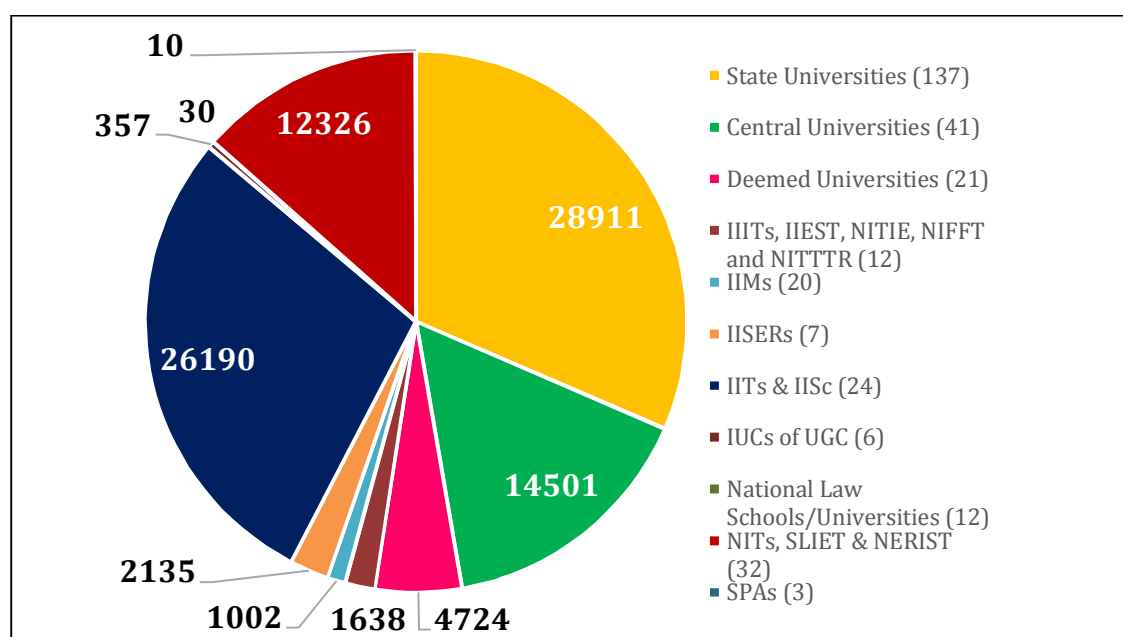

Fig. 29: Distribution of Papers Published by Member Institutes (Category-wise)

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

The correlation between the numbers of full-text article downloads and publication of member institutions of e-ShodSindhu during the CY 2020 has been calculated. The total of 264 member institutes having access to full-text e-resources are considered for the analysis. The Pearson correlation coefficient for e-ShodhSindhu Consortium for 2020 is 0.81. This indicates that there is a positive correlation between these two variables.
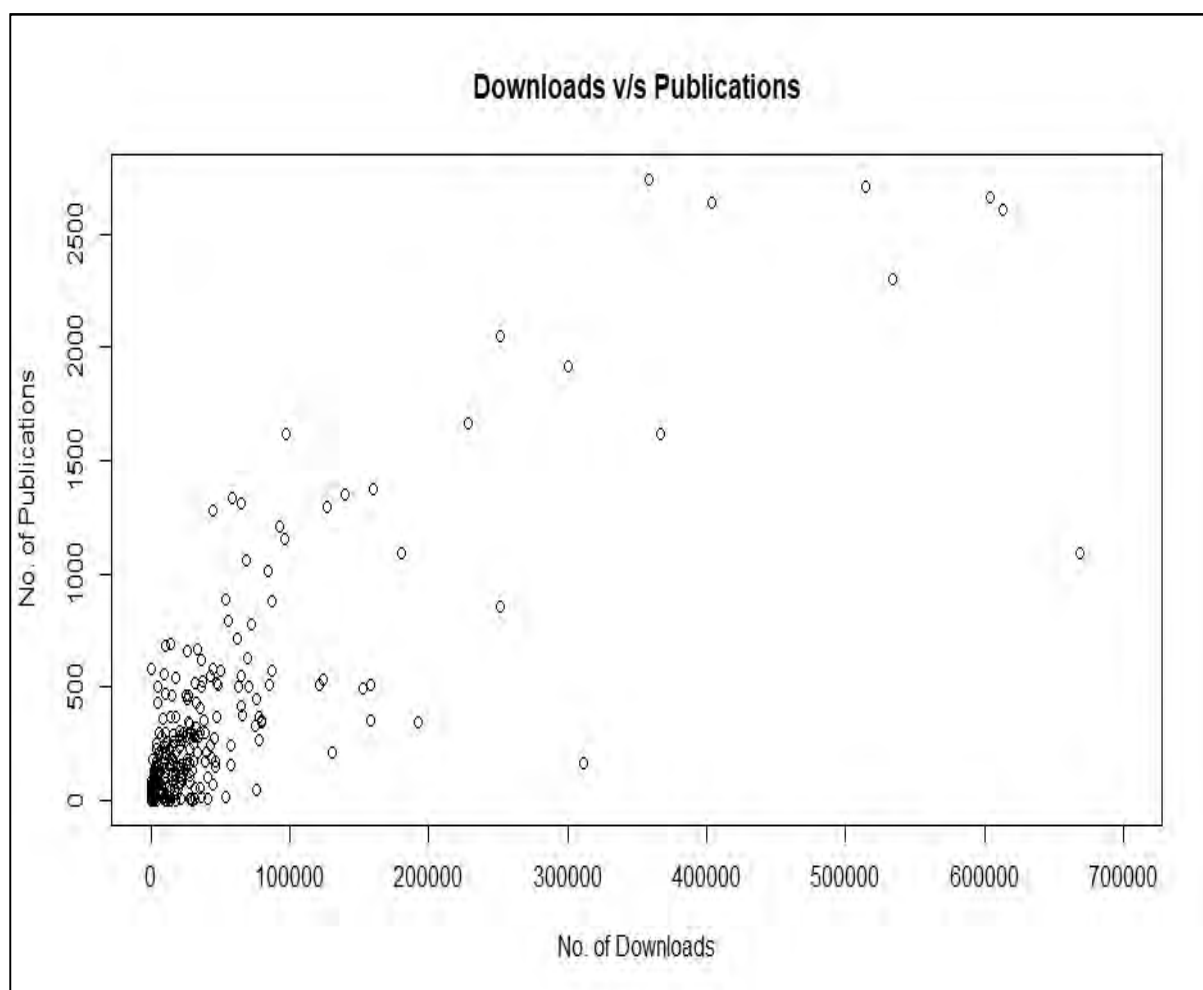

Fig. 30: 5.7.2. Scatter Plot - Correlation between Numbers of Download & Publication

5.7.3. Average Cost of an Article

The average cost per download represents the average cost of each access event to a full-text article and is calculated by dividing the subscription cost of a resource by the number of articles downloaded. Table-19 given below, provides the cost per download of an article. The cost per download is lowest for JSTOR (Rs. 11.99) and the highest for Project Muse (Rs.1164.87.38), whereas the Consortium average, is Rs. 138.71. In the case of databases, the cost per search for MathSciNet is Rs. 24.06, for Web of Science Rs. 226.38 and cost per hit for JGate is Rs. 19.26.

Sl No	Resource Name	No of Institution subscribed	Downloads	Cost per download /search
1	ACM Digital Library	61	101087	₹ 334.35
2	American Chemical Society	109	634374	₹ 172.55
3	American Institute of Physics	128	438260	₹ 274.44
4	American Physical Society	126	471406	₹ 169.36
5	Annual Reviews	113	57645	₹ 516.46
6	ASCE Journals Online	50	119010	₹ 237.15
7	ASME Journals Online	56	101157	₹ 256.06
8	JSTOR	209	2508997	₹ 11.99
9	Oxford University Press	163	193396	₹ 95.78
10	Project Muse	101	48507	₹ 1,164.87
11	Springer Link + Nature	200	3190050	₹ 141.40
12	Taylor and Francis	129	288103	₹ 324.05
	Total For FT Resources		**8151992**	**₹138.71**
13	JGate Plus (JCCC)	194	1036489	₹19.26
14	MathSciNet	90	1250125	₹ 24.06
15	Web of Science/LA	150	686990	₹226.38

Table-19: Cost per Download for Full-Text e-Resources for the Year 2020

Note: Usage for ISID & EPW not available and cost per download not computed. Usage statistics for JCCC is a proprietary format and not COUNTER complaints. Usage for all other resources are based on COUNTER 5 provided by the publishers.

5.8.   Document Delivery through J-Gate Plus @e-ShodhSindhu

The J-Gate Plus @e-ShodhSindhu is a virtual library of journal literature created as a customized e-journal articles access gateway and database solution for member institutions of e-ShodhSindhu. It provides article-level access to e-journals subscribed under the Consortium as well as e-journals subscribed by 25 university libraries designated as ILL Centres of the INFLIBNET Centre. Moreover, an increasing number of CFTIs are now contributing their journal subscription details in the J-Gate Plus. It acts as a gateway to search 52,487 journals including 26,644 journals subscribed by the Consortium as well as universities designated as ILL Centres. The J-Gate Plus interface facilitates the

triggering of an email request for articles that are not accessible online and are available only in universities designated as ILL Centres.

During the period under report, 60 ILL requests were received from member universities to the INFLIBNET Centre out of which 51 requests were fulfilled. Details of numbers of article requests received from member universities are given below in Table-20:

Sl. No.	Requested By	DDR-DU	DDR-F	DDR-UF	Total
1	National Institute of Technology - Patna	10			10
2	Avinashilingam University - Institute for Home Science and Higher Education for Women	7		1	8
3	Indian Institute of Management - Calcutta	3	1		4
4	Kannur University	2		2	4
5	Patna University	3			3
6	Doon University	3			3
7	Indian Institute of Management, Shillong	3			3
8	Bharati Vidyapeeth	1	1		2
9	Yashwantrao Chavan Maharashtra Open University	2			2
10	Allama Iqbal Library - University of Kashmir	1		1	2
11	GITAM (Deemed to be University)	2			2
12	Central University of Jharkhand	2			2
13	Gujarat University	2			2
14	Rajiv Gandhi University	2			2
15	Other Institutes/Universities (11)	8	0	3	11
	Total Requested	**2**	**51**	**7**	**60**

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

Table-20: Document Delivery Requests made by Different Universities

During the period under report, a total number of 451 requests were received by the 25 ILL Centres and by the INFLIBNET from all the member universities, out of which 165 were fulfilled as per the details are given below in Table-21.

Sl. No.	University Name	DDR-DU	DDR-F	DDR-P	DDR-UF	Total	% of Fulfilled
1	Aligarh Muslim University	3	23	0	20	46	50.00
2	Annamalai University	0	4	0	0	4	100.00
3	Assam University	0	0	0	0	0	NA
4	Banaras Hindu University	0	0	0	8	8	0.00
5	Banasthali University	1	13	0	2	16	81.25
6	Bangalore University	0	0	8	0	8	0.00
7	Jadavpur University	0	0	130	0	130	0.00
8	Jawaharlal Nehru University	0	1	1	0	2	50.00
9	Kurukshetra University	0	0	4	0	4	0.00
10	Mangalore University	0	0	44	0	44	0.00
11	North Eastern Hill University	0	0	1	0	1	0.00
12	Pondicherry University	0	3	0	4	7	42.86
13	Pt. Ravishankar Maharaj Shukla University	0	1	0	0	1	100.00
14	Punjab University	0	8	0	4	12	66.67
15	Punjabi University	0	0	0	0	0	NA
16	Rashtrasant Tukadoji Maharaj University	0	0	0	0	0	NA
17	Sardar Patel University	0	0	1	0	1	0.00
18	Tata Institute of Social Science	0	22	0	5	27	81.48
19	The Maharaja Sayajirao University	0	0	4	0	4	0.00
20	University of Calcutta	0	0	1	13	14	0.00
21	University of Delhi	0	8	3	6	17	47.06
22	University of Hyderabad	2	30	0	11	43	69.77
23	University of Madras	0	0	0	0	0	NA
24	University of Pune	0	1	0	1	2	50.00
25	University of Rajasthan	0	0	0	0	0	NA
26	INFLIBNET Centre	2	51	0	7	60	85.00
	Total	8	165	197	81	451	36.59

$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-21: Document Delivery Requests Received by 25 ILL Centres and INFLIBNET Centre

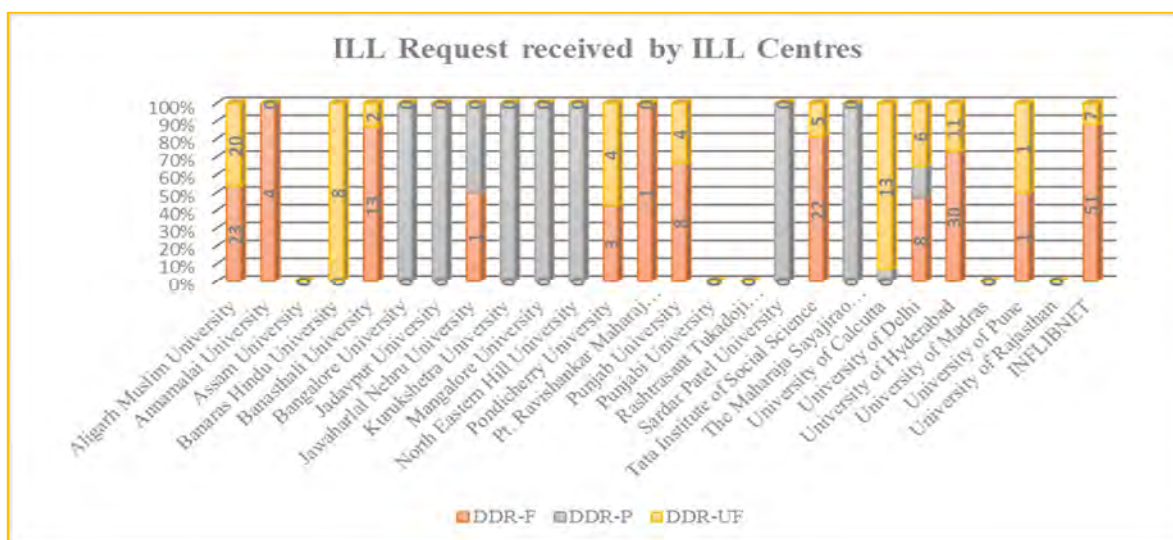Fig. 31 depicts the comparison between DDR-Fulfilled and the total number of DDR received by each ILL Centre.

Fig. 31: Document Delivery Requests Received (DDR-R) Vs Full-filled (DDR-F) by 26 ILL Centres

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

The "National Library and Information Services Infrastructure for Scholarly Content (N-LIST)", is part of e-ShodhSindhu: Consortia for Higher Education E-Resources as a college component provides access to 6,150 e-journals and 7,99,536 e-books to all Government, Government-aided as well as non-aided colleges through a proxy server installed at the INFLIBNET Centre. Electronic resources subscribed under the 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.

5.9.1. Current Status

As on 31st March 2021, a total number of 3198 member colleges are getting access to resources subscribed under the N-LIST programme. Log-in IDs and passwords have been issued to more than 4.07 lakhs faculty members, students and researchers after obtaining the list of authorized users from these 3198 registered colleges.

5.9.1.1. Number of Colleges

Fig. 32 given below reflects the year-wise number of colleges who joined the NLIST Programme during the year 2010 to 2021. Due to changes in eligibility criteria of membership, there was a slight decrease in the total number of registered colleges after 2017.
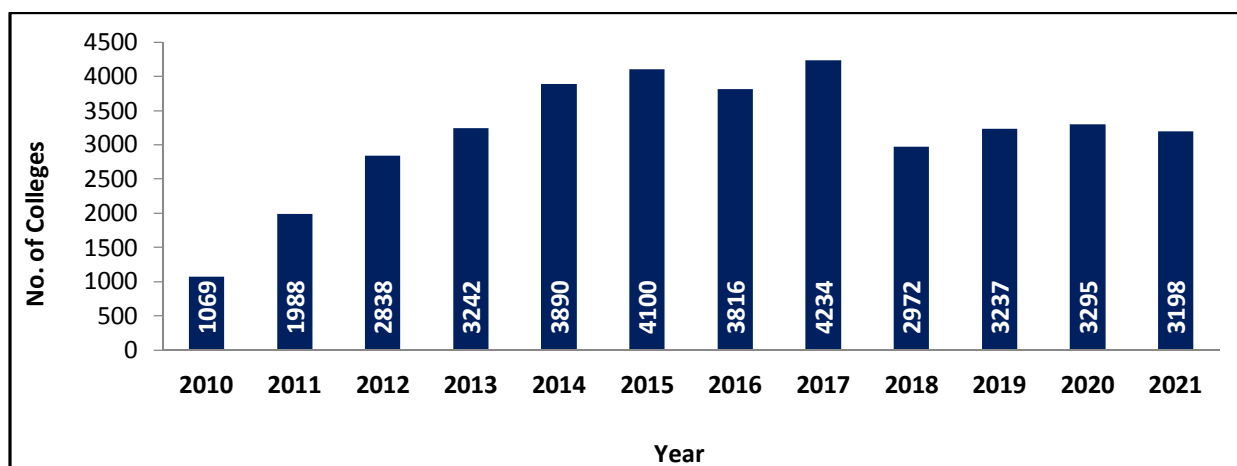
Fig. 32: Year-wise Registration of Colleges

5.9.2. Electronic Resources Subscribed under the N-LIST Programme

5.9.2.1. Full-text Electronic Resources

Full-text electronic resources contain complete articles along with their bibliographic details. The N-LIST programme subscribes to full-text e-resources from scholarly societies, commercial publishers and aggregators like the American Institute of Physics, American Physical Society, Oxford University Press, Royal Society of Chemistry, H W Wilson, etc. All full-text resources subscribed under the N-LIST programme contain electronic journals as revealed in Table-22 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	2009+
6	JSTOR	USA	2500	Vol. 1+
7	Oxford University Press	UK	262	1996+
8	Royal Society of Chemistry	UK	29	Ten yrs.
9	H. W. Wilson	USA	3,075	1982+
	Total		**6150**	

Table-22: Full-text Electronic Resources

5.9.2.2. Electronic Books

Electronic books are either subscribed on an annual subscription basis as in the case of e-brary or are purchased on a one-time payment and perpetual access basis as in the case of all remaining publishers listed below. The total number of electronic books accessible to colleges under the N-LIST programme exceeds 1,99,536 as revealed below in Table-23.

Sl. No	E-book Name	Publishing Country	No. of Purchased Books
1	ProQuest Academic Collection (formally known as E-brary)	USA	1,85,227
2	Cambridge Books Online	UK	1,800
3	EBSCO Host-Net Library	USA	936
4	Hindustan Book Agency	India	65
5	Institute of South East Asian Studies (ISEAS) Books	India	382
6	Oxford Scholarship Online	UK	1,402
7	Springer eBooks	Germany	2,300
8	Taylor & Francis eBooks	UK	1,800
9	Myilibrary-McGraw Hill	USA	1,124
10	Sage Publication eBooks	UK	1,000
11	Open Access (Net Library)		3,500
	Total	**4,93,334**	**1,99,536**

Table-23: Electronic Book

5.9.3. 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 Programme through proxy server set up at INFLIBNET Centre. The World e-Book Library includes 6,00,000 primary sources spanning the 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 the 18th and mid-20th century from documents across the Indian subcontinent, including India, Pakistan, Burma, Afghanistan and Bangladesh.

Sr. No.	Name of Collection	No. of Titles
1	World eBook Library	6,00,000
2	South Asia Archive	4.5 million pages

Table-24: E-Resources Available through National Subscription

5.9.3.1. Mode of Access

The INFLIBNET Centre has implemented EZ-Proxy from OCLC for authenticating registered users. Individual users from colleges can directly access and download articles from journals and chapters from books directly from the publisher's website once they are duly authenticated as authorized users through the authentication mechanism deployed at the INFLIBNET Centre. The Centre has also implemented Shibboleth based authentication of authorised NLIST users for off-Campus access to American Institute of Physics, Annual Reviews, Institute of Physics, Royal Society of Chemistry, Springer eBooks, Cambridge eBooks, and Taylor & Francis.

5.9.3.2. Cost-effectiveness of the N-LIST Programme

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

5.9.3.3. 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 the usage of e-resources wherever required. A brief analysis of the usage of e-resources by the beneficiary college is given below.

5.9.3.4. Publisher wise Usage of E-journals

Fig. 33, given below, shows the number of articles downloaded by the users from different publishers during the financial year 2020-2021. It can be observed that JSTOR is the highly used resource followed by Indian Journals and Oxford University Press. The usage of EPW could not be analysed due to the lack of usage data from the publisher.
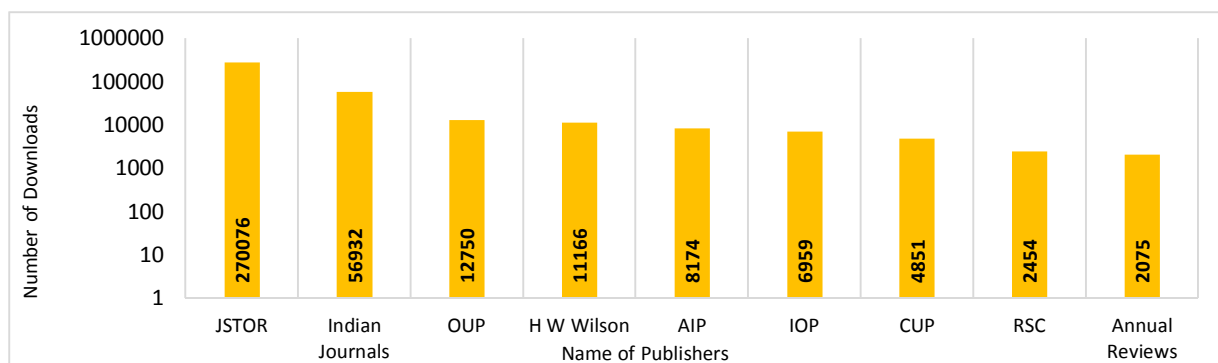
Fig. 33: Publisher-wise Usage of E-Journals 2020-2021

5.9.3.5. Publisher-wise Usage of E-Books

Fig. 34, given below, shows publisher-wise usage of ebooks during the financial year 2020-2021. It can be observed that Ebrary is the highly used resource followed by Springer and Sage e-books.
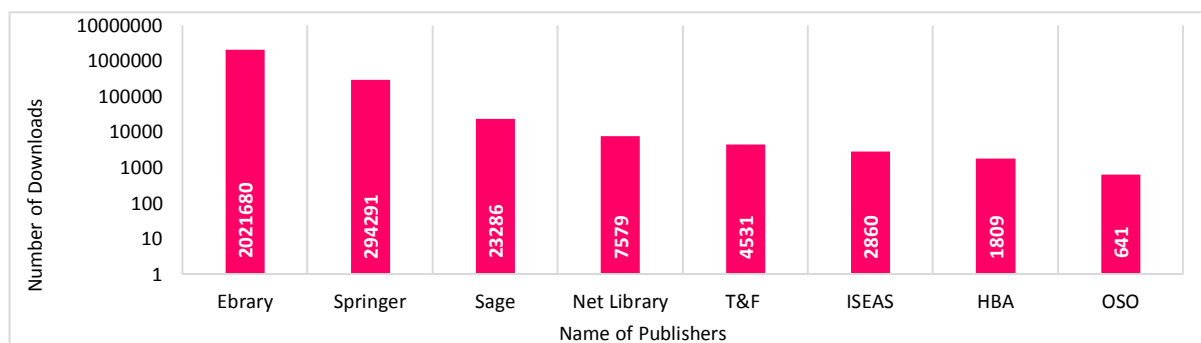

Fig. 34: Publisher-wise Usage of E-Books 2020-2021

5.9.3.6. Month-wise Usage of E-Resources

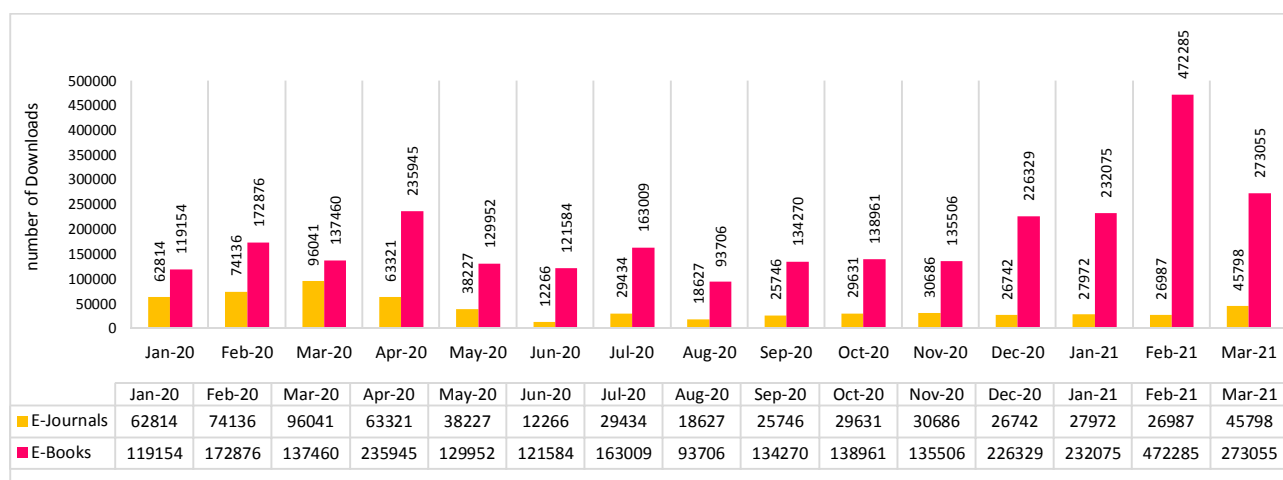Fig. 35 given below reflects month-wise usage of e-journals and e-books for the period April 2020 to March 2021.

	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
E-Journals	62814	74136	96041	63321	38227	12266	29434	18627	25746	29631	30686	26742	27972	26987	45798
E-Books	119154	172876	137460	235945	129952	121584	163009	93706	134270	138961	135506	226329	232075	472285	273055

Fig. 35: Month-wise Usage of E-resources for 2020-2021

5.9.3.7. 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 the 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 analyze log files of the N-LIST Proxy Server. Fig. 36 given below shows month-wise unique visitors to N-LIST resources. The graph shows an average of 46564 monthly users from 3198 member colleges.
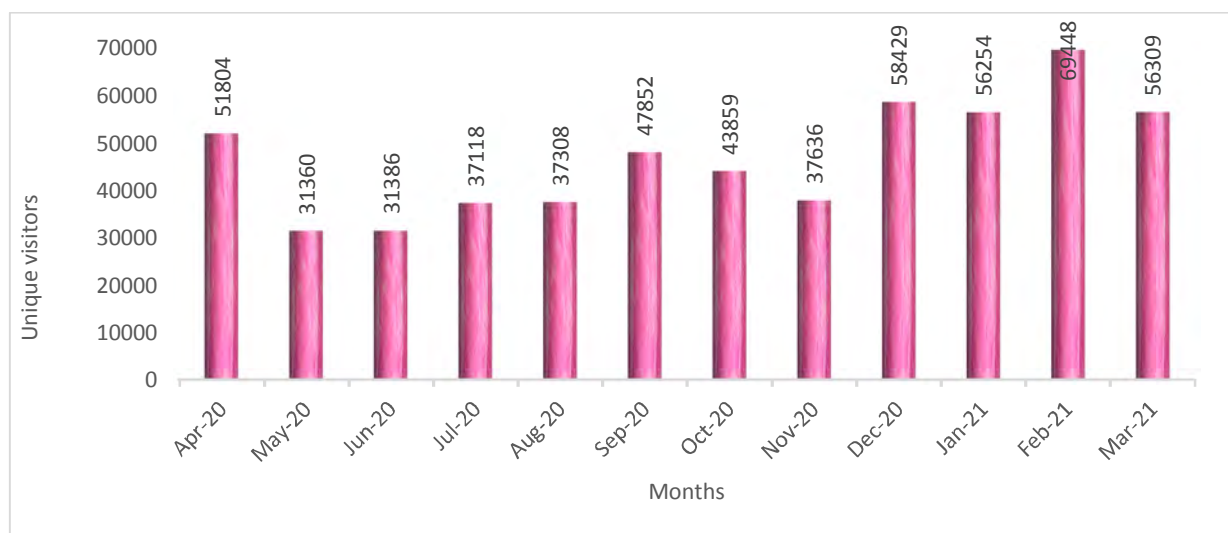
Fig. 36: Month-wise Unique Visitors of the N-LIST Programme 2020-2021

5.9.3.8. Month-wise Pages Viewed

A total number of 1,49,05,916 pages were viewed by the users in member colleges from the subscribed e-resources. Fig. 37 given below depicts the month-wise number of pages viewed by the users in member colleges.
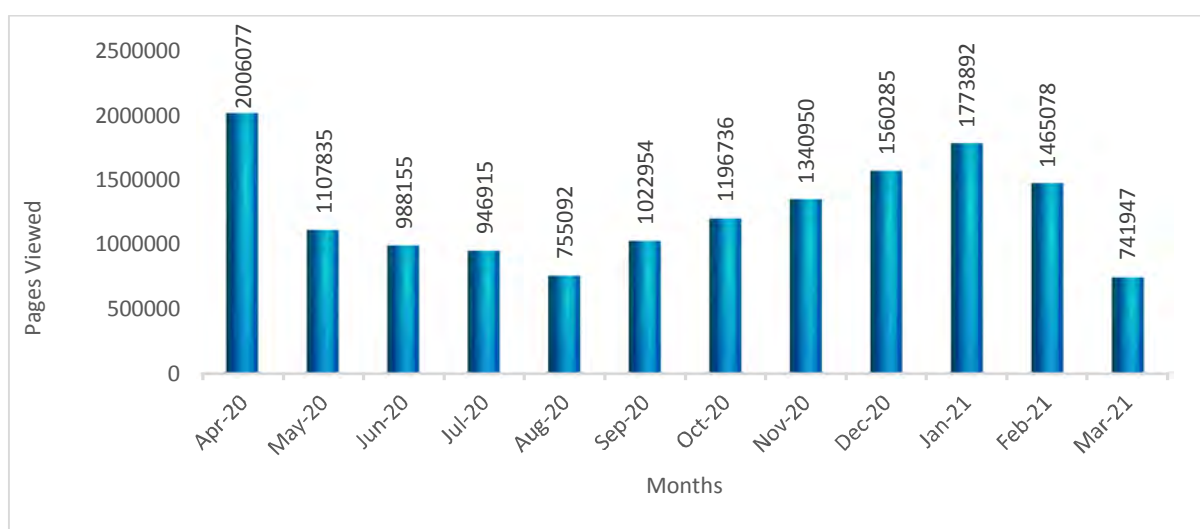

Fig. 37: Month-wise Pages Viewed 2020-2021

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

5.9.4.1. Average Cost of Journals per College

The N-LIST programme subscribes to a total number of 6,150 journals for its member colleges. The cost of subscription to e-resources comes down with an increase in the number of colleges. As such, the average cost of a single journal per college computes to Rs. 2.48 in the year 2020 when only 3198 colleges were enrolled for the scheme.

E-resources	No. of colleges	No. Res. Titles	Price per College Per Title in Rs.
AIP	2000	18	₹329.73
Annual Reviews	3200	33	₹38.18
EPW	3200	1	₹850.00
Indian Journals	3200	186	₹8.60
IOP	2000	46	₹40.69
JSTOR	3200	2500	₹0.37
OUP	3200	262	₹5.63
RSC	2000	29	₹101.49
H.W. Wilson	3200	3075	₹0.79

Table-25: Average Cost of Journals per College

5.9.4.2. Average Cost of E-books

Most of the e-books under the N-LIST programme had already been purchased for all existing 3198 colleges on a "one-time purchase basis or perpetual access basis". In 2020-2021, only Ebrary was subscribed on an annual subscription basis for 3200 colleges. The average cost per book per college of Ebrary was Rs. 0.04.

E-resources	No. of colleges	No. Res. Titles	Price per College per Title in Rs.
ProQuest Academic Collection (formally known as E-brary)	3200	150000	₹0.04

Table-26: Average Cost of E-books per College per Title

5.10.   INFLIBNET Access Management Federation (INFED) (https://parichay.inflibnet.ac.in/)

The INFLIBNET Access Management Federation (INFED), the first and only access management federation in India, based on Shibboleth, standard-based open source software, for authenticating authorized users from colleges, universities and other institutes in India. The federation, set up with the permission of the Governing Board, INFLIBNET Centre provides seamless access to e-resources from anywhere, anytime. INFED is a member of eduGAIN.

As on 31st March 2021, 183 institutes have joined INFED, However, only 108 institutes have completed their setup and availing of INFED services as per the details are given below in Table-27 (a). The INFED is working with 37 publishers that are providing access to e-resources to e-ShodhSindhu as per the details are given below in Table-27(b). Moreover, 31 publishers have formally signed membership **(^)** of INFED as per the details are given below.

Name of the Institutes	
Alagappa University, Tamil Nadu	LIGO-India Test Scientific Collaboration
Alliance University	Madurai Kamraj University
Ambedkar University Delhi	Mahatma Gandhi University, Kerala
Amet University	Management Development Institute Murshidabad
Anjuman-I-Islam's Kalsekar Technical Campus	Manipal University Jaipur
Anna University	Manipur University
Assam University	MKSSS's Cummins College of Engineering For Women, Pune
Avinashilingam University, Tamil Nadu	Motilal Nehru National Institute of Technology, Allahabad
B.S.Abdur Rahman Crescent Institute of Science and Technology	Nagaland University
Babasaheb Bhimrao Ambedkar University	National Institute for Research in Tuberculosis
Banaras Hindu University	National Institute of Design
Bharathidasan University	National Institute of Fashion Technology
Bharati Vidyapeeth Deemed University, Pune	National Institute of Technology Delhi
BITS Hyderabad	National Institute of Technology Durgapur
BITS Pilani K K Birla Goa Campus	National Institute of Technology Goa
BITS Pilani	National Institute of Technology Tiruchirappalli
Central University of Kerala	National Institute of Technology, Hamirpur
Central University of Haryana	National Law University Odisha
Central University of Jammu	NIIT University
Central University of Odisha	Nirma University
Central University of Punjab	NLIST Users
Central University of South Bihar	O.P. Jindal Global University
Central University of Tamilnadu	PES University
CEPT University	Prin. L. N. Welingkar Institute of Management Development and Research
Cochin University of Science and Technology, Kerala	PSG Technology
Coimbatore Institute of Technology	Regional Centre for Biotechnology
Gandhigram Rural Institute, Tamil Nadu	Sant Longowal Institute of Engineering and Technology
Goa University	Sardar Vallabhbhai National Institute of

	Technology, Surat
Government Engineering College, Bhuj	School of Planning and Architecture
Government Engineering College, Dahod	Shiv Nadar University
Government Engineering College, Valsad	LIGO-India Scientific Collaboration
Gulbarga University	Shivaji University, Kolhapur
Indian Institute of Engineering Science And Technology, Shibpur	Sikkim University
Indian Institute of Information Technology, Nagpur	South Asian University
Indian Institute of Management Sirmaur	Sree Shankaracharya University of Sanskrit
Indian Institute of Management, Ahmedabad	Sri Ramakrishna Engineering College
Indian Institute of Science, Bengaluru	SRM University AP Amaravati
Indian Institute of Technology (Indian School of Mines) Dhanbad	St Joseph Engineering College, Mangalore
Indian Institute of Technology Delhi	Tamil Nadu Physical Education and Sports University
Indian Institute of Technology Guwahati	Tamil Nadu Veterinary and Animal Sciences University
Indian Institute of Technology Madras	Techno India University
Indian Institute of Technology Palakkad	Thapar Institute of Engineering and Technology
Indian Institute of Technology, Palakkad	Translational Health Science And Technology Institute (THSTI)
Indira Gandhi Institute of Development Research (IGIDR)	Tumkur University
Indraprastha Institute of Information Technology Delhi (IIIT-Delhi)	University of Calicut
INFLIBNET Staff	University of Delhi
Institute for Social and Economic Change	University of Madras
Institute of Infrastructure Technology Research and Management	Vellalar College For Women
International Institute of Information Technology Bangalore	Vidyasagar University
Inter-University Centre for Astronomy and Astrophysics, Pune (IUCAA)	VIGNAN's Foundation for Science, Technology and Research
JSS Academy of Higher Education and Research	Vinayaka Mission's Research – DU
Kongu Engineering College	Vivekanand Education Society
Kurukshetra University	Zeal College of Engineering and Research
L.E. College Morbi	

Table-27 (a): Institutes IDP set up done by INFLIBNET Centre

Publishers Members of INFED	
ACM Digital Library (^)	MathSciNet (^)
American Chemical Society (^)	Mathworks(^)
American Institute of Physics (^)	Nature (^)
American Physical Society	Optical Society of America (^)
Annual Reviews (^)	Oxford University Press (^)
ASCE Journals Online (^)	Palgrave (^)
ASME Journals Online (^)	Portland Press
ASTM Standards Digital Library	Project Euclid(^)
Cambridge University Press (^)	Project Muse (^)
Capitaline (^)	Proquest (^)
CRIS INFAC Industrial Information	Royal Society of Chemistry (^)
Ebsco (^)	ScienceDirect(^)
Emerald Publishing (^)	SciFinder Scholar
Euromonitor Passport (^)	SheerIDInc (^)
Faculti Media Limited (^)	Springer Link (^)
IEEE Electronic Library Online (^)	Taylor and Francis (^)
Institute of Physics (^)	Web of Science (^)
JSTOR (^)	Wiley Blackwell Publishing (^)

(^) Formally Signed Membership

Table-27 (b): Publishers

## 6.	e-Learning, Content Development and MOOCs

During the Covid-19 pandemic, the Centre has taken it as an opportunity and opened its wings for all the academic community. Some of the major initiatives are ILMS (INFLIBNET Learning Management Service), Online Digital Platform, Scaling up e-Learning portal such as Integrated e-Content Portal, e-PG Pathshala, etc. Currently, the Centre is providing the following e-Learning services:

Fig. 38: E-learning platforms

6.1. INFLIBNET Learning Management Service (ILMS) (https://www.inflibnet.ac.in/ilms)

The INFLIBNET Learning Management Service (ILMS) is a service offered by the Information and Library Network Centre to institutions of higher education across the country. This service is being offered to all the Central, State and Deemed universities. Some of the core features of this service are Course creation, Enrollment, Assignment & Assessment, Discussion forum, etc.
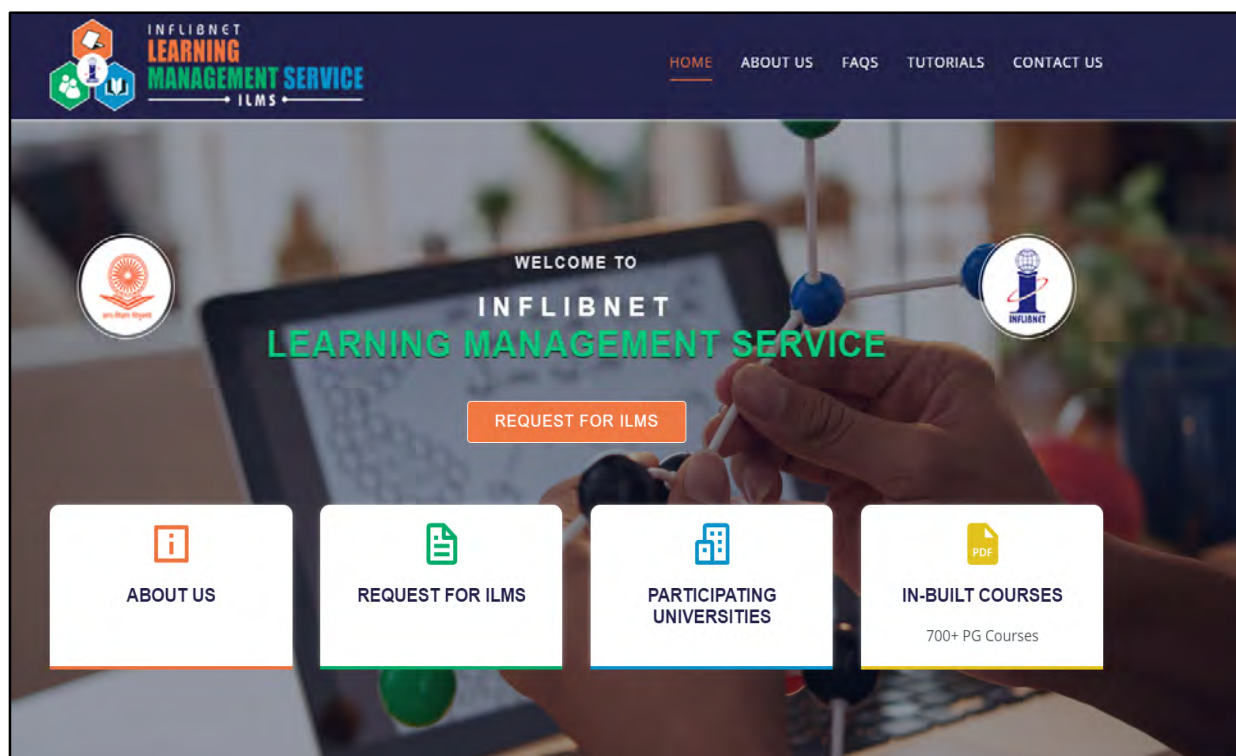
Fig. 39: INFLIBNET Learning Management Service (ILMS)

The unique feature of this platform/service is its courses i.e. it provides pre-populated learning content of PG courses which was developed under e-PG Pathshala as per the prevailing guidelines of UGC. The Centre is working for UG and archival of SWAYAM courses also to incorporate in it. The Centre is using open-source learning management (Moodle) software.

Due to the Covid-19 pandemic, they are suffering to conduct their routine academic activities properly, thus this platform is helping universities in their academic teaching activities. The dedicated website is available at https://www.inflibnet.ac.in/ilms/. The Centre has deployed this ILMS for Central University of Haryana; Kaviguru Kalidas Sanskrit University, Ramtek, Nagpur; Dr Hari Singh Gaur University, Sagar; Central University of Gujarat, Gandhinagar; Central University of South Bihar, Gaya; Maharshi Dayanand University, Rohtak; Central University of Punjab Bathinda; Gondwana University Gadchiroli; Directorate of Distance Education, DAVV Indore; Sumandeep Vidyapeeth Deemed to be University; IITE, Gandhinagar; Madan Mohan Malaviya University of Technology Gorakhpur; Sri Sri Aniruddhadeva Sports University, Dibrugarh, Assam; Sikkim

University, Gangtok; Babasaheb Bhimrao Ambedkar University, Lucknow and Gujarat University, Ahmedabad during this reported period.

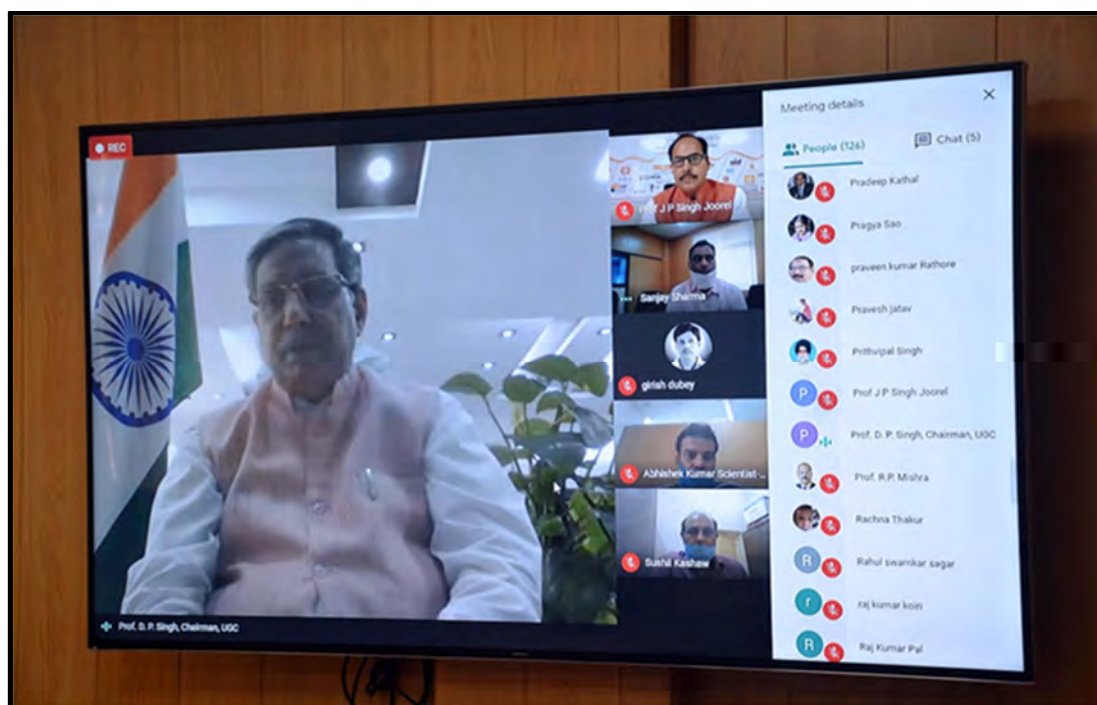**Fig. 40: Participating Universities in ILMS**

Fig. 41: Launching of ILMS for Dr HS Gour University, Sagar by Hon'ble Chairman, UGC

Fig. 42: Launching of ILMS for Central University of Gujarat, Gandhinagar Hon'ble Chairman, UGC on 7th July 2020

Fig. 43: Launching of ILMS for Central University of Punjab, Bathinda Hon'ble Chairman, UGC on 11th September 2020

6.2. e-PG Pathshala: Production of Courseware E-content for Postgraduate Subjects
(https://epgp.inflibnet.ac.in/)

The Centre has successfully completed the e-PG Pathshala, a Ministry of Education, Government of India initiative under its National Mission on Education through ICT (NMEICT), executed by the UGC. The Centre is now maintaining the website as well as strengthening its by-products.

The outcomes of e-PG Pathshala are as follows:

- Develop e-content in 70 subject areas at PG level drawing expertise from subject experts in colleges and universities;
- 22000+ e-modules for PG courses

- Modules are in four-quadrant (e-Text, video, self-assessment, learn more)
- Make e-content available to students and peers using different delivery modes to impart formal and informal education and for supplementing and complementing the process of teaching and learning in higher education
- Satisfactory usage of e-content amongst students and peers; and
- By-product: **e-Adhyayan (**https://epgpbooks.inflibnet.ac.in/)- e-Adhyayan is a repository of e-Books for the Post-Graduate courses. The e-Books are derived from the e-text of e-PG Pathshala course materials.

The e-PG Pathshala played a vital role in education sector during the COVID-19 pandemic across the country. There were several times UGC/MoE mentioned/tweeted about e-PG Pathshala as shown below in Fig. 44.
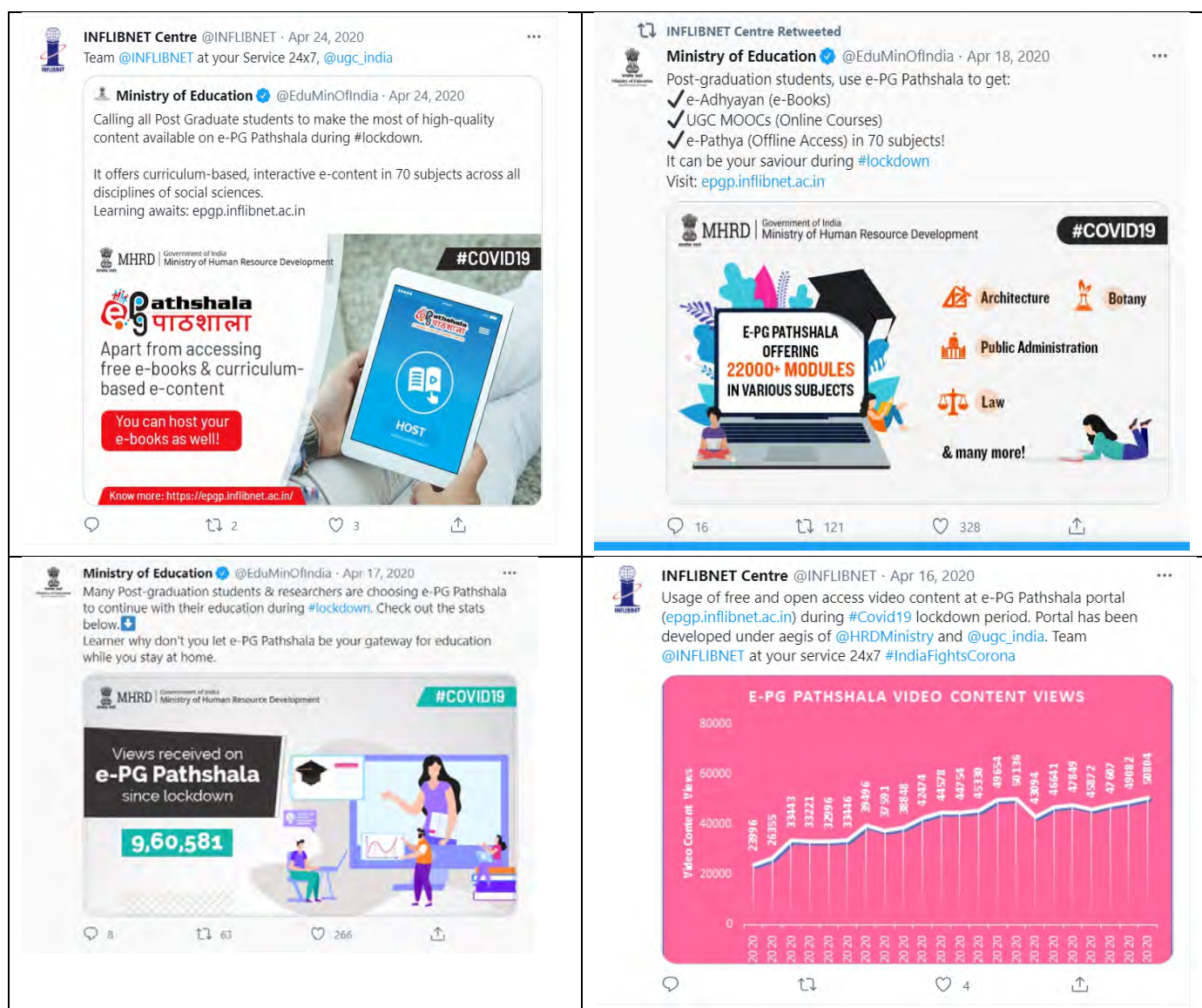
Fig. 44: e-PG Pathshala

6.3. SWAYAM PRABHA

The SWAYAM PRABHA, a Ministry of Education, Government of India project under NMEICT, is conceived as a group of 34 DTH channels devoted to telecasting high-quality educational programmes on a 24X7 basis using the GSAT-15 transponders. The INFLIBNET Centre has continued the task of development and maintenance of the SWAYAM PRABHA portal and its hosting including archiving of videos for all the channel during 2020-21.

Fig. 45: SWAYAM PRABHA Website

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; and dashboard for the Ministry of Education, BISAG and admin view. During 2020-21, the Swayam-Prabha services were extended to school education under the e-Vidya initiative. There are 34 channels in Swayam-Prabha including 12 channels allotted to school education since August 2020.

Fig. 46: School Education under the e-Vidya Initiative

6.3.1. Additional Mode for Source of Content / Learning

There are several platforms are being used to reach at learners door apart from the DTH. Viewers/learners can view the content from the following additional source of learning platform:

- Portal (Video -Archive): Learners can learn through the portal of SWAYAM PRABHA which is storing all the telecasted videos and streamed them through a video streaming server using Youtube.
- Mobile-App: Learner can install the mobile app (android) and view all the video content. Mobile-app is being incorporated with Govt app UMANG.
- Jio-TV: Learners can view the content through JIO-TV (live) as well as archived content of the last 7 days.

6.4. Study Webs of Active Learning for Young Aspiring Minds (SWAYAM): UGC-MOOCs

The INFLIBNET is executing this project with the guidance of UGC. The major role of INFLIBNET is to provide web interface of course proposal and a dedicated portal for UGC-MOOCs. Portal provides a dashboard for SWAYAM coordinators, mentors, information on PG-courses update, workshop details, etc. The Centre has continued all the said activities for the year 2020-2021.

Fig. 47: Home page of UGC-MOOCs

The invitation of the proposal has been done by the dedicated portal (https://swayam.inflibnet.ac.in). All the new courses under said national coordinator have been identified through the portal. The portal also facilitates a dashboard to UGC for the administrative task and relevant information of UGC-MOOCs.

6.4.1. Course Offered under SWAYAM by INFLIBNET Centre

The four credits UGC SWAYAM-MOOC (15 weeks course) on Research Ethics was conducted 2nd time in 2020. Shri Manoj Kumar K, Scientist-E (CS), INFLIBNET Centre, UGC, Gandhinagar, Gujarat as Course Coordinator (CC) of the MOOC course. There were 1806 learners & students enrolled in this course which is conducted by INFLIBNET Centre as an Anchor Institute and Central University of Himachal Pradesh is the Host Institute. Majority of age groups enrolled in the course were between 20-30 ages, out of which 43.3% were students, 33.6% faculty members, 12.5% employed and 10.6% others as per registration. Each module has 10 graded questions and there were 25 assignments answered by the enrolled learners. About 183 students/learners registered for the final exam which was conducted on 25th and 26th March 2021 by NTA. The results are yet to be declared. The course was little prolonged due to lockdown and prevailing pandemic conditions in the country.
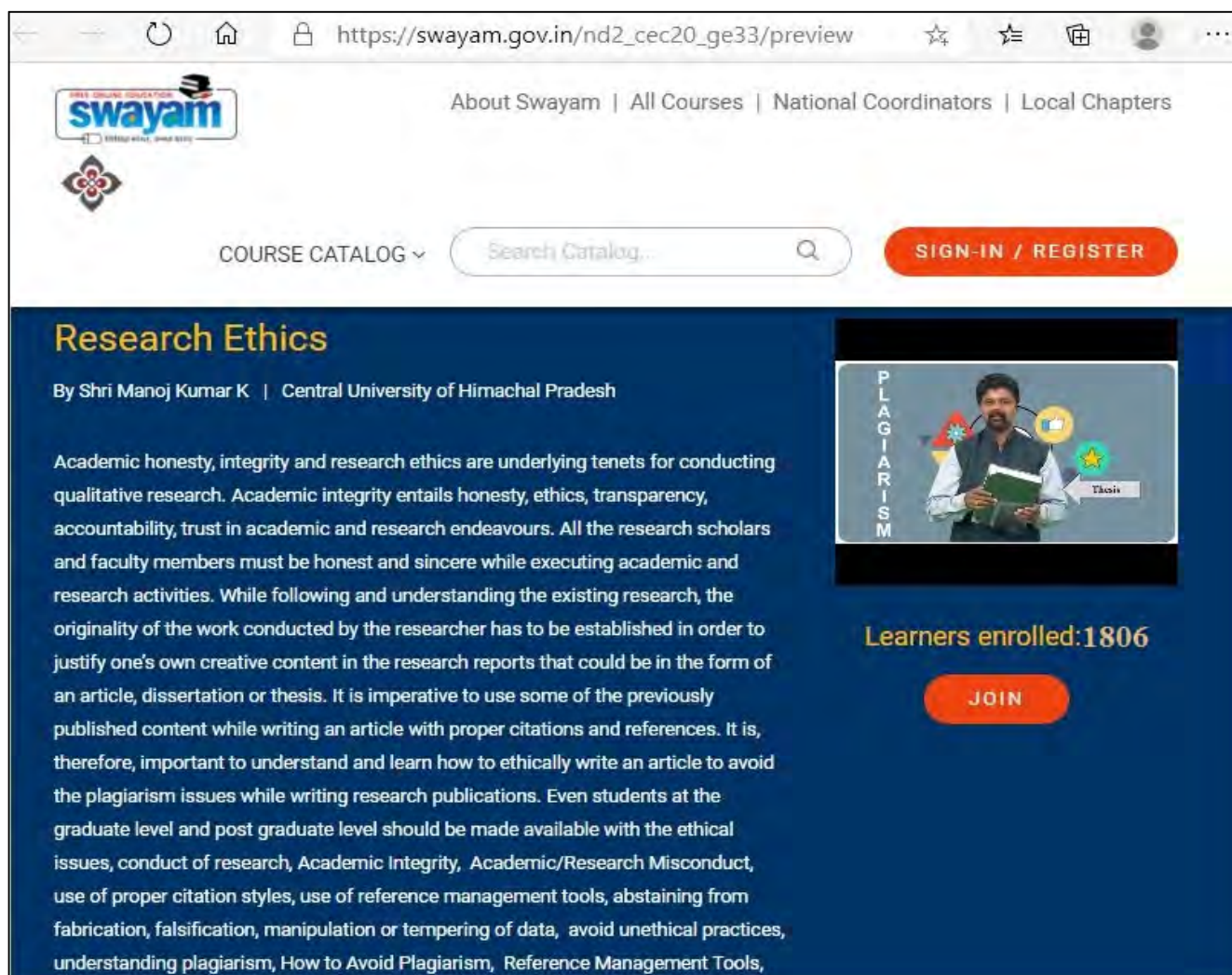
Fig. 48: UGC Swayam-MOOCs Course organised by INFLIBNET Centre

6.5. Vidya-Mitra

The Vidya-Mitra Project was assigned to the INFLIBNET Centre in May 2014. It is an integrated e-Content Portal for all the e-content projects developed under the NMEICT, Ministry of Education, Government of India. Vidya-mitra hosts 66,000+ Video (Self-learning / e-Tutorial) and 44,000+ e-Text. Though the project has been completed, INFLIBNET Centre is providing free hosting services for e-contents developed by faculty members/academia across Indian institutions on a request basis. During the reported period, the Centre has received a total of 62 requests for the same and those are being processed.

6.6. One India Digital Platform

The INFLIBNET Centre has taken an initiative to make available all the resources being developed under NMEICT, Ministry of Education, Government of India through a single web interface. As an outcome "One India Digital Platform" being developed by the Centre and it is under beta mode. It is an integrated e-Content portal that provides facility to search and browse all hosted content or

metadata of other hosted content wherein a learner can easily access the desired material including audio/video learning material, textual material, multimedia enriched materials etc. It is made for learners of higher education. The major source of content are archival courses of SWAYAM, video tutorial of SWAYAM-PRABHA, e-PG Pathshala and other NMEICT e-content projects.

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

7.1. National Institutional Ranking Framework (NIRF): India Rankings 2020-2021

The Centre has continued the project NIRF and executed its 5th exercise of "India Rankings 2020" under the National Institutional Ranking Framework (NIRF)". The INFLIBNET Centre was responsible for the development of the NIRF Web Portal including the data capturing system, perception capturing system, the feedback mechanism and the ranking platform. The Centre also provided and verified data on publications, citations, patents and highly cited papers. The Centre has also deployed a technical help desk team at its premises.

India Rankings 2020 was e-released by Hon'ble Minister Shri Ramesh Pokhriyal 'Nishank' in the august presence of Hon'ble Minister of State Shri Sanjay Dhotre on 11th June 2020. The work done by INFLIBNET Centre was highly appreciated. The Centre created a ranking module for NIRF 2020 and ranked institute's details are available at www.nirfindia.org. The Centre is also working on the 6th exercise of India Rankings, i.e. India Rankings 2021.

Fig. 49: India Rankings 2020

7.2 Atal Ranking of Institutions on Innovation Achievements (ARIIA) 2020-2021

The INFLIBNET Centre has successfully executed the 2nd year exercise of Atal Ranking of Institutions on Innovation Achievements (ARIIA) framework which was launched by Hon'ble Vice President of India on 18th August 2020. The Centre is a technical partner of ARIIA project and signed MoU with AICTE for the same. The Centre has started to work for the 3rd exercise of ARIIA, i.e. ARIIA 2021.

Fig. 50: ARIIA 2020

The Centre has done the following activities under ARIIA.

- A dedicated website of ARIIA
- Web applications :
  - ➢ Registration module
  - ➢ Data Capturing Module
  - ➢ Feedback Mechanism Module
  - ➢ Ranking / Scoring Module
  - ➢ Analytical dashboard
  - ➢ Patent related data retrieval from patent databases etc.

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

The Centre has automated the accreditation module of NBA named as "Accreditation Workflow Management System (AWMS)" which is related to the accreditation of the technical institution's programme. The Centre is involved to develop a full-fledged online platform of accreditation workflow management system for technical institutes based on requirements provided by the National Board of Accreditation since 2018. The Centre has developed the Pre-Qualifiers (PQs) and Self-Assessment Report (SAR) for Management, Diploma Pharmacy and HMCTs disciplines. Besides, the Centre has completed the Team composition and Evaluator workflow system for the Engineering discipline which is under testing environment. Apart from that, the Centre has also created multi-level dynamic reporting for NBA and Ministry of Education, Government of India to view daily statistics based on PQs and SAR for various disciplines.

8.   VIDWAN and Indian Research Information Network System (IRINS)
   (https://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 principal objectives of this database are: i) to 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.
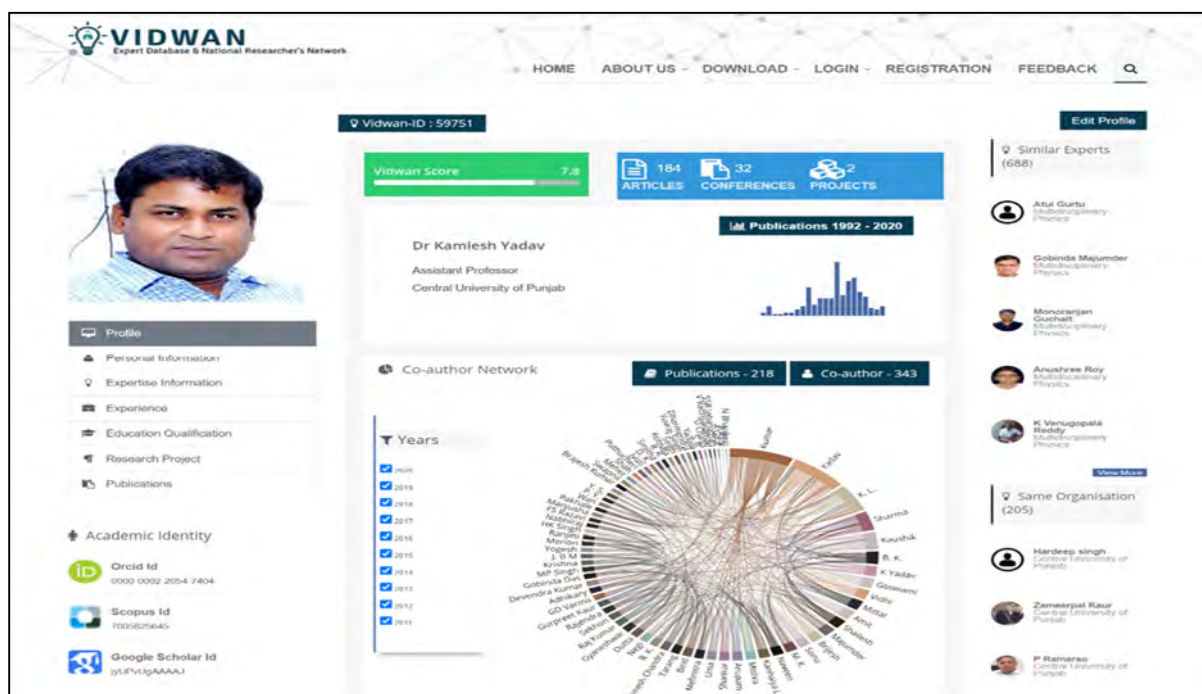
Fig. 51: VIDWAN: Expert Profile with Co-author Network

A persistent URL with credentials 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 the 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 2021, the database contained 85,865 profiles from more than 9,148 institutions including academic and R&D organizations in India and abroad. Also, VIDWAN database contains more than 12,17,922 bibliographic records which can potentially bring greater visibility to the research contributions of an expert through VIDWAN database. Fig. 51 depicts a screenshot of the website of VIDWAN: Expert Profile with Co-author Network. Total page views for VIDWAN expert database are 70,56,313.

8.1. Progress Made During the Year 2020-2021

During the period under report, all experts were communicated through email to update their respective profiles. About 35,980 new expert profiles and 4.59 lakhs publication metadata 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 a CSV file.

8.2. Features of the 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 a 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 the area of expertise, academic identity, projects, experience, publication, honours & awards received and other academic contributions;
- Import project works, honours and awards from the pre-defined CSV files;
- Import publications using academic identities such as ORCID, Microsoft Academic Search ID, Google Scholar ID, Researcher ID and Scopus ID;
- Import social media metrics (Altmetrics) from Altmetric and Dimensions; and
- API to harvest citation information from Scopus, CrossRef, Dimensions.

8.3. Indian Research Information Network System (IRINS) (https://irins.inflibnet.ac.in)

IRINS is a 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. The Centre developed IRINS and has been providing service to all the higher education institutions in India under the National Mission on Education through ICT-II. The objective of this project is to provide a research information management system as a service to the participating institutes to showcase the research contributions of the faculty members to the scholarly community. IRINS is available as free software-as-service to academic and R&D organizations in India. IRINS supports the integration of existing research repositories 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 scholarly contributions.
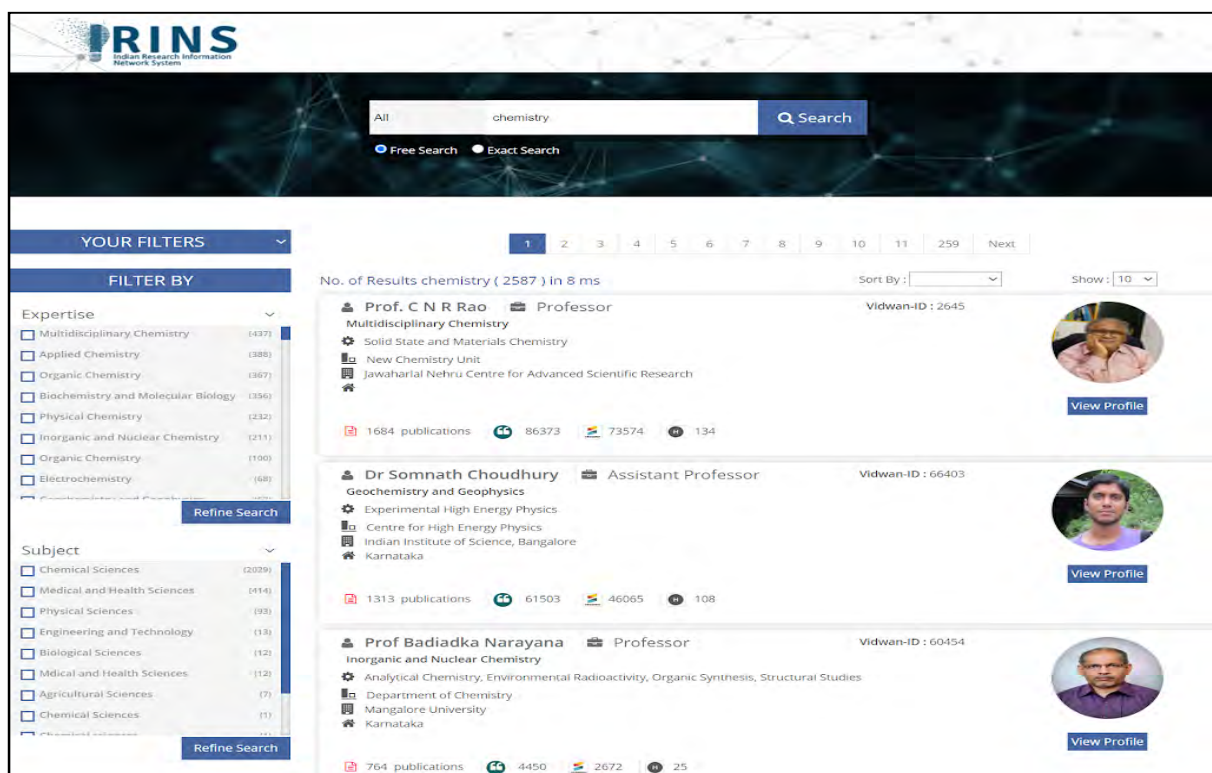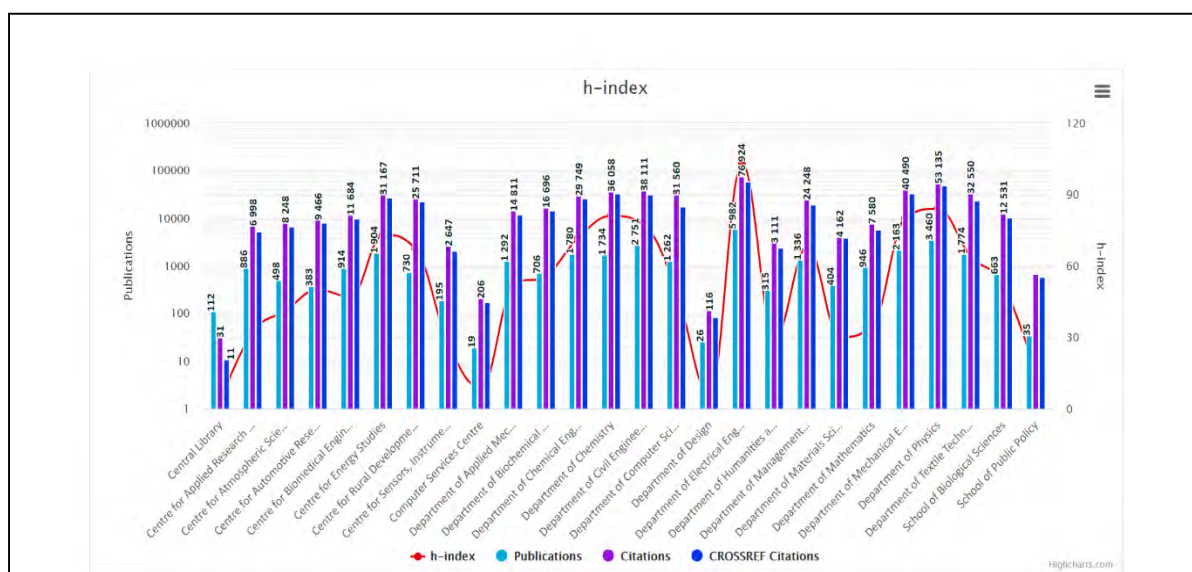
Fig. 52: Faceted Search result with filters (https://irins.inflibnet.ac.in)

Fig. 53: Department wise research productivity with publications,
citations, h-index of IIT Delhi

8.3.1.   Key Features and Functionalities of IRINS

IRINS supports the organisation to systematically collect scholarly communication data and generate the various reports as and when required. The core features and functional use of IRINS is given below:

Fig. 54: Functional use of IRINS

- The nodal officer/research administrator could organise the data and generate various reports required by the head of the institute and funding agencies, such as the number of articles published by the institute, department and faculty members with citation and h-Index.
- It supports the faculty members and institute to organise the information of the project with funding details.
- The research related data supports the organisation on annual academic review of the department and faculty members. It assists the faculty members to pull scholarly communication data from different sources;
- Faculty could generate CVs with up to date information for project proposals, job applications, etc.
- The system supports the institute to provide faculty and their publication information for national and international level assessment system such as the National Institutional Ranking Framework (NIRF), the National Assessment and Accreditation Council (NAAC), the Atal Ranking of Institutions on Innovation Achievements (ARIIA), etc.
- The publication metadata in the system interlinked with the institutional repository and other open-access platforms for full-text articles brings more visibility to the faculty members' research contribution and the institute.
- SOLR based search engine to search the desired faculty profile with various filters such as areas of expertise, the designation with the number of publications and citations.
- The co-author network shows the faculty's collaboration pattern for the specific period and provides the graphical representation of collaborating authors with the number of the publication.
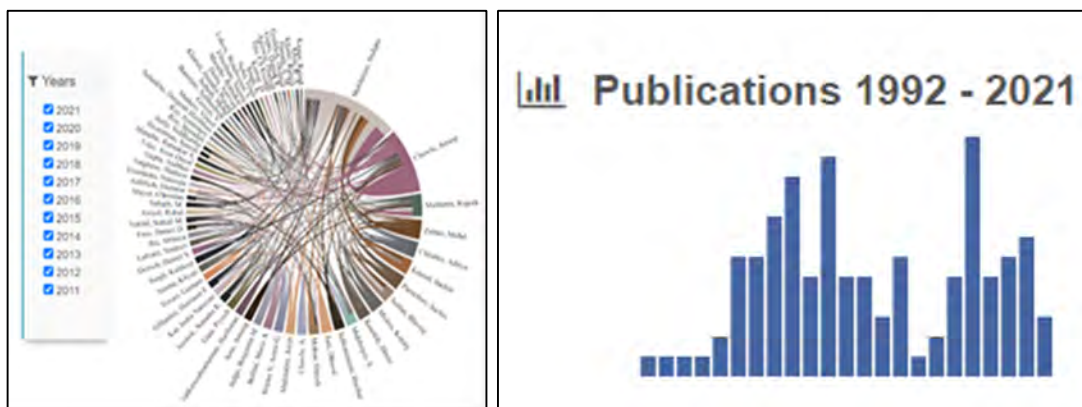
Fig. 55: Co-author Network and Visualization of Research Productivity of Prof Sudipto Mukherjee, IIT Madras (https://iitd.irins.org/profile/16724)

8.3.2. IRINS: Instances

The IRINS is being offered as "software-as-service" to the participating institutes and completed 280 instances, created 52487 profiles and accumulated 9,36,856 publication metadata. During the period under report 125 instances were created, and the Table-28 depicts the number of IRINS active instances in different institute categories across India to 280 till 31st March 2021. A data analytics dashboard has been created for the funding agencies and policymakers to analyse the research related metadata gathered through IRINS and it supports the research administrator to benchmark the institute based on the publications, citations and social media metrics.

Organisation Category	No. of Instances	Organisation Category	No. of Instances
NITs	30	R&D Organisations	10
Central Universities	31	State Universities	32
IIMs	20	Private Universities	33
IITs	23	Technological Institutions	25
IIITs and IIITDMs	18	College's	32
IISERs	6	Deemed Universities	4
Other Centrally Funded Institutes	16	**Total**	**280**

Table-28: Number of IRINS instances in various categories

9. INFLIBNET's 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, JSP, JavaScript, jQuery
Database*:* MySQL Server, Postgres SQL Server and MS SQL Server
Operating Systems: Red Hat Linux Enterprise Server 4.0, Fedora 8.0/9.0, CentOS7.0/8.0
Virtualization and Cloud Infrastructure: Linux KVM, VMWare

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

The Centre maintains a comprehensive Website of its own in English and Hindi as shown in Fig. 56. Several new additions were made to the new version of the Institute's website. The responsive website of the Centre is developed with the latest web technologies such as HTML5, PHP, Bootstrap and jQuery. The new website of the Centre has the following main features:

- Powerful search and browse interface;
- Recent and new events;
- Download forms and documents;
- Mailing list, video gallery, webmail, etc.;
- Latest news, jobs, tenders, etc.;
- Minutes of Meeting of the Council, Governing Board and Finance Committee;
- Annual Reports, Newsletters (in PDF and Flipbook format); and
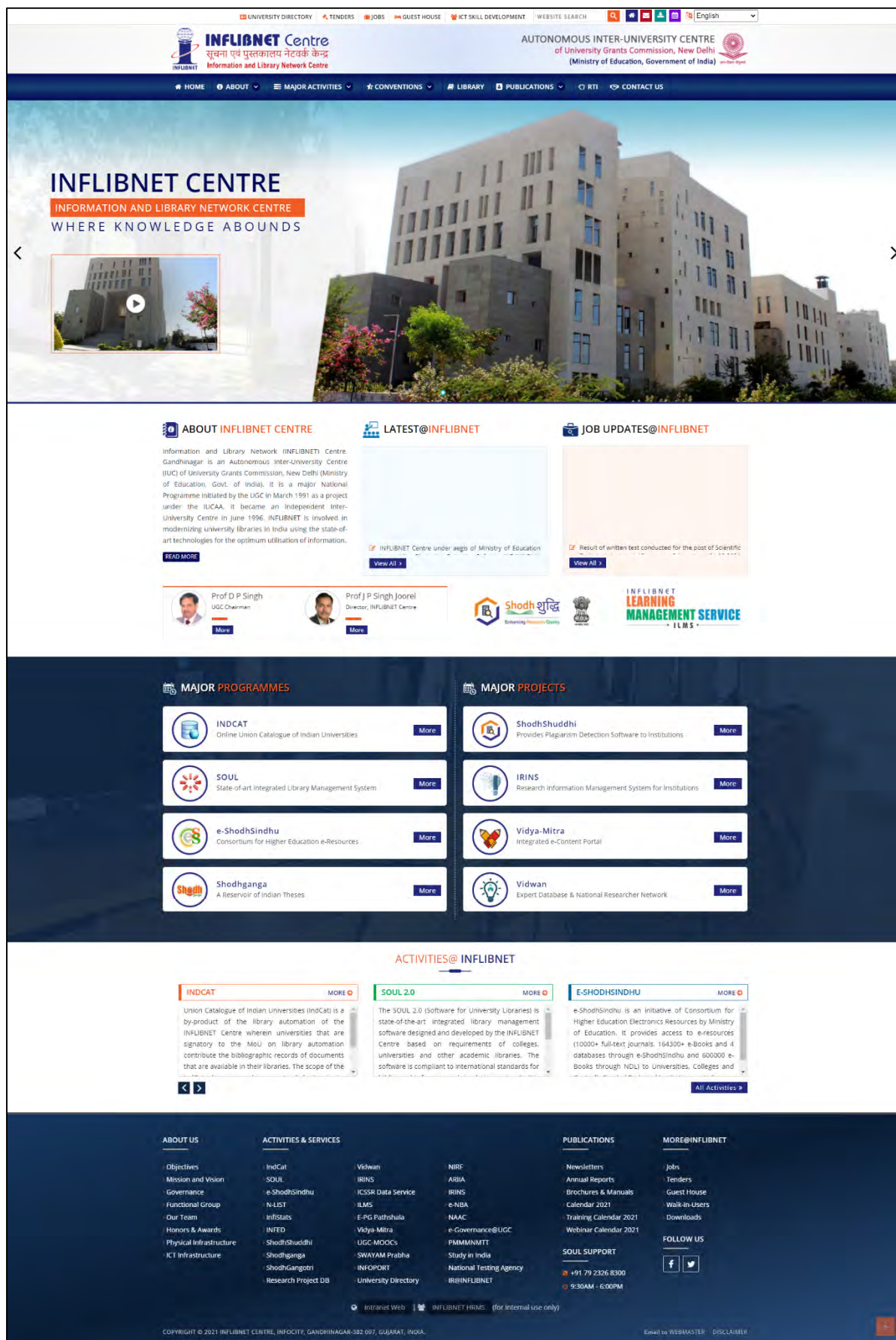- Training Programme Calendar.

Fig. 56: INFLIBNET's Website

9.2 Intranet (https://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. 57. 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.
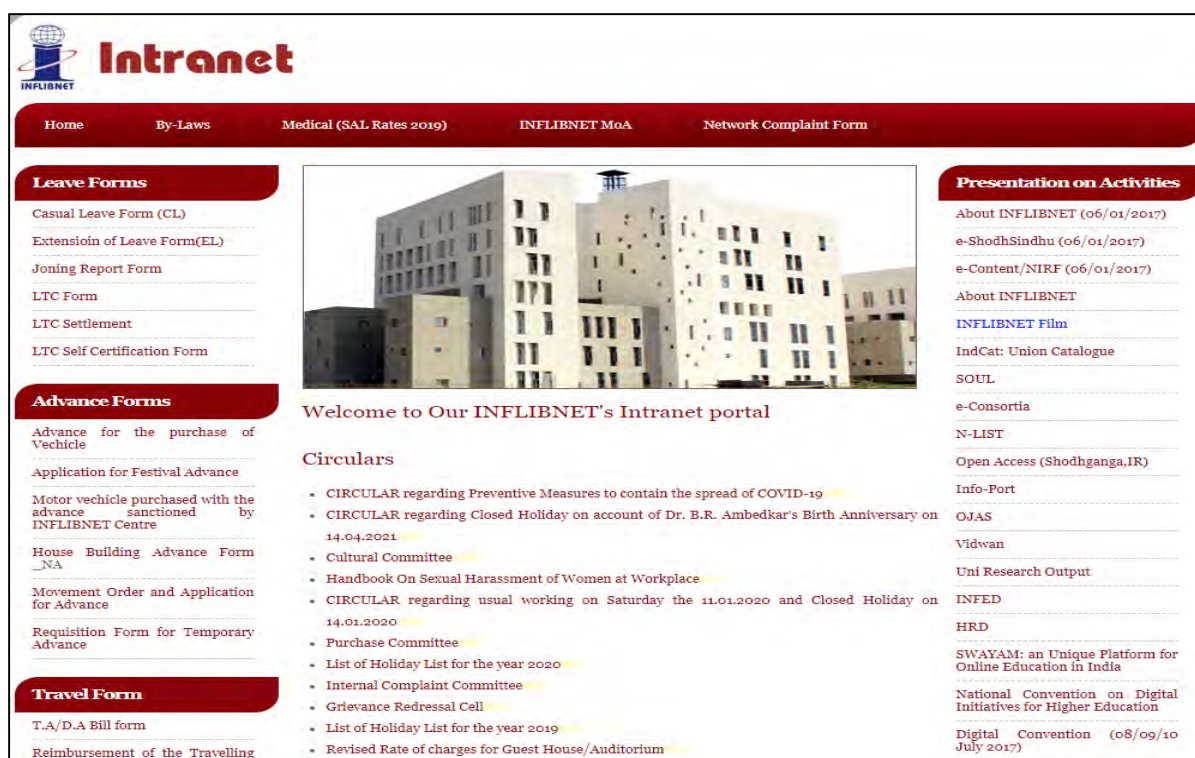
Fig. 57: INFLIBNET's INTRANET Website

9.3 IHRMS (INFLIBNET Human Resource Management System)

The INFLIBNET Centre maintains an IHRMS Module (INFLIBNET Human Resource Management System), a web-based interface to facilitate routine administrative activities online as shown in Fig. 58. It provides a dashboard showing all sub-functional modules as shown in Fig. 59. Each employee has to log in with a password to get access to their profile to get into the dashboard. Currently, IHRMS facilitates the following:

Admin:
- EL, CL, RH, HPL (Employee's leave balance, leave application & approval process)
- Tour Approval
- Transport requisition

Purchase:
- View claims (Newspaper, medical, etc.)
- Requisition
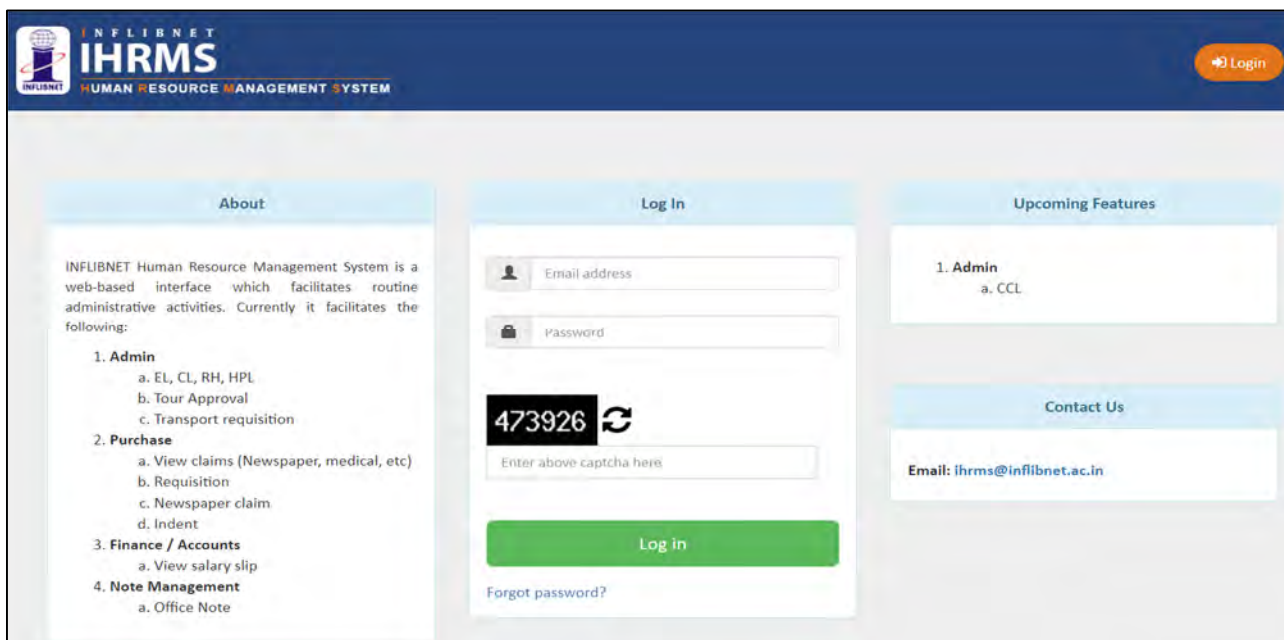- Newspaper claim
- Indent

Finance / Accounts:
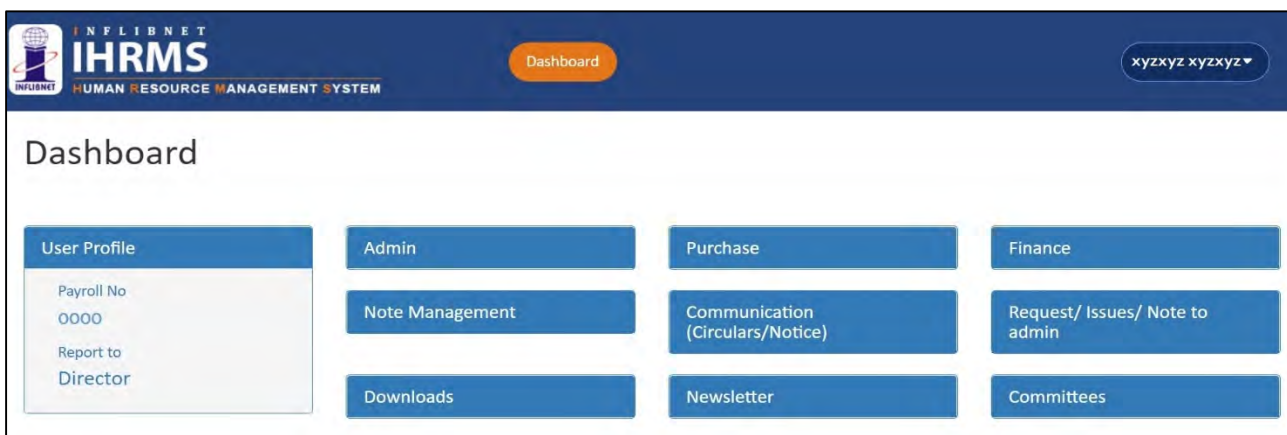- View salary slip

Note Management:
- Office Note

Newsletter:
- Content submission

Fig. 58: INFLIBNET's IHRMS Interface

Fig. 59: IHRMS's Dashboard
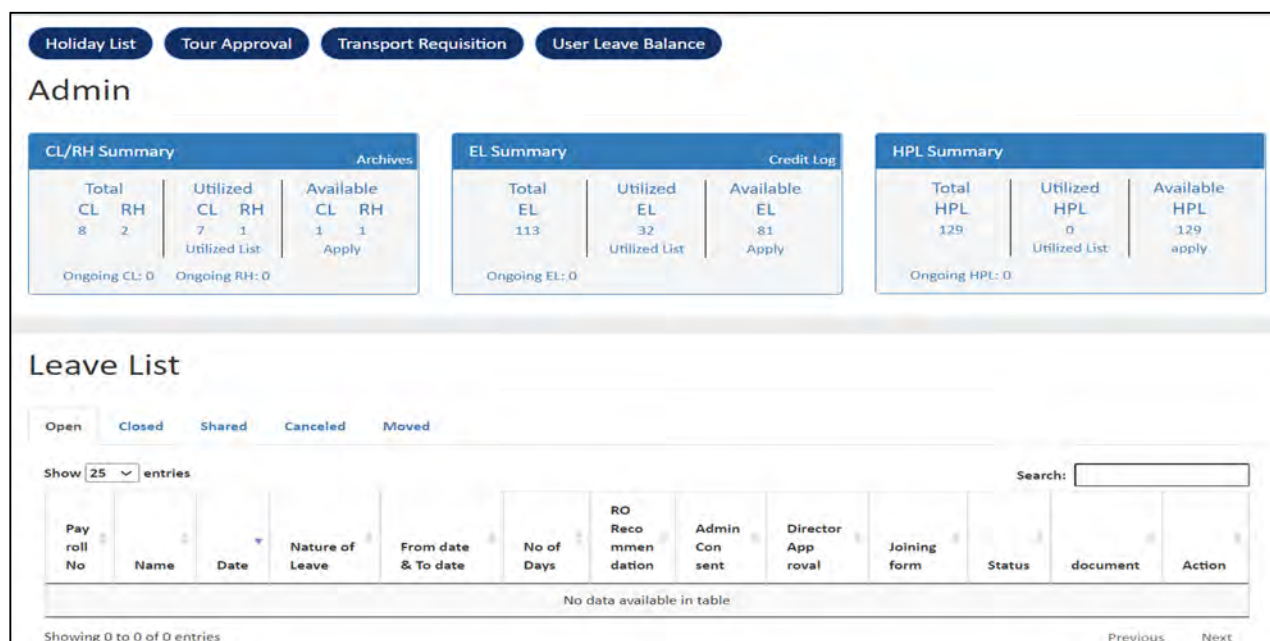
Fig. 60: A view of 'Admin' sub-functional Module in IHRMS's Dashboard

10. Web Portals & Websites of Various Government Initiatives and Institutions

10.1. YUKTI Portal

The INFLIBNET Centre developed a dedicated portal called YUKTI (Young India Combating COVID with Knowledge, Technology and Innovation) for the Ministry of Education, Government of India for their use. It intends to cover the different dimensions of COVID-19 challenges in a very holistic and comprehensive way, in other words, it covers the initiatives and efforts of various academic institutes related to Coronavirus. It was launched by Hon'ble Human Resource Minister Shri Ramesh Pokhriyal 'Nishank' on 12th April, 2020.
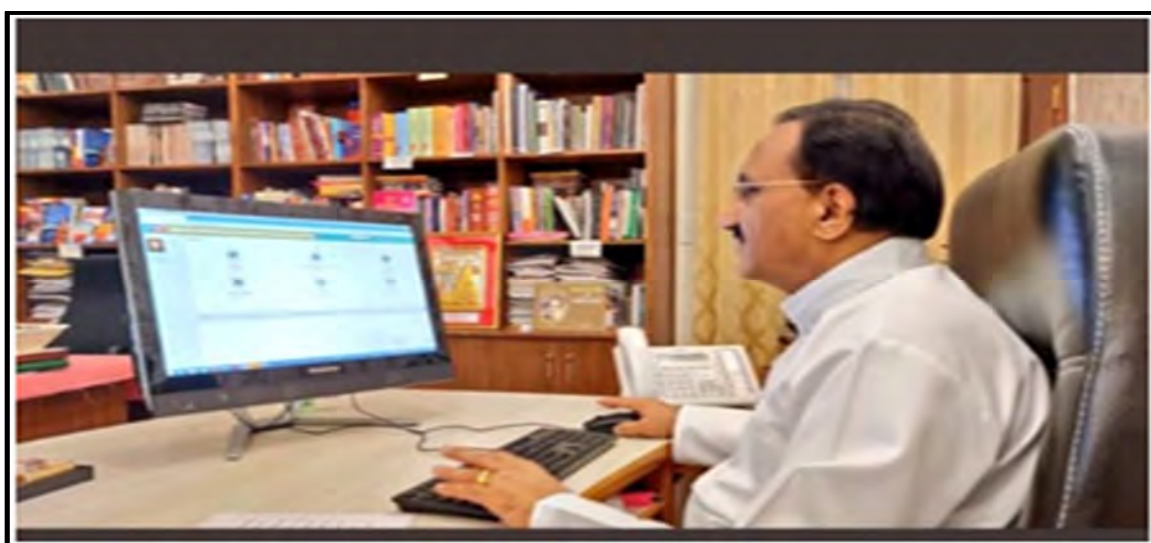
Fig. 61: Hon'ble Human Resource Minister Shri Ramesh Pokhriyal 'Nishank' launching YUKTI Portal on 12th April, 2020

10.2. Ek Bharat Shrestha Bharat (EBSB) (www.ekbharat.gov.in)

The MoE assigned the task for the creation of a web portal of "Ek Bharat Shrestha Bharat " to INFLIBNET Centre. The Centre developed and maintained the dedicated portal of "Ek Bharat Shrestha Bharat" including its hosting. The Centre has continued this project for this year also.
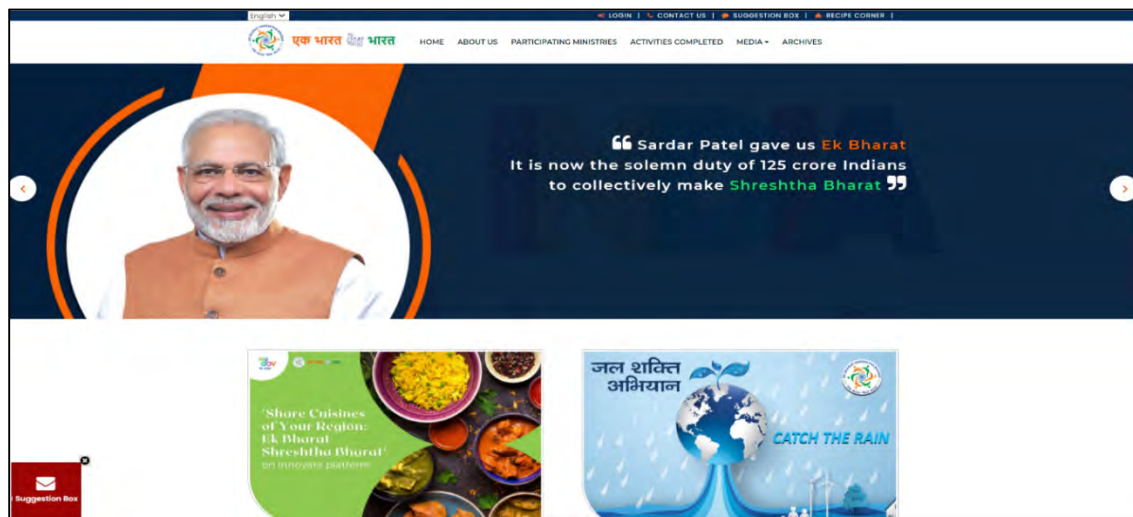
Fig. 62: Web Portal for Ek Bharat Shrestha Bharat (EBSB)

The following development has been done under EK Bharat Shreshta Bharat:

- Creation of a different gallery for events/activities being organised by different States;
- Admin module to manage the content of paired states;
- Upload facility to all nodal officers of different states;
- New stakeholders created;

Further, the new initiative called "Jal Shakti Abhiyaan" incorporated this year. So, activities conducted under EBSB is mentioned below. The interface to cater to the activities details are developed by the Centre.

Fig. 63: Activities Conducted under EBSB

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

The Centre has executed the yearly exercise of counselling and admission process for foreign students under the "Study in India" program. It is one of the important educational projects of the Ministry of Education which is being executed by the EdCIL & INFLIBNET. The Centre is the technical partner for designing & developing the website and its web applications & its hosting.
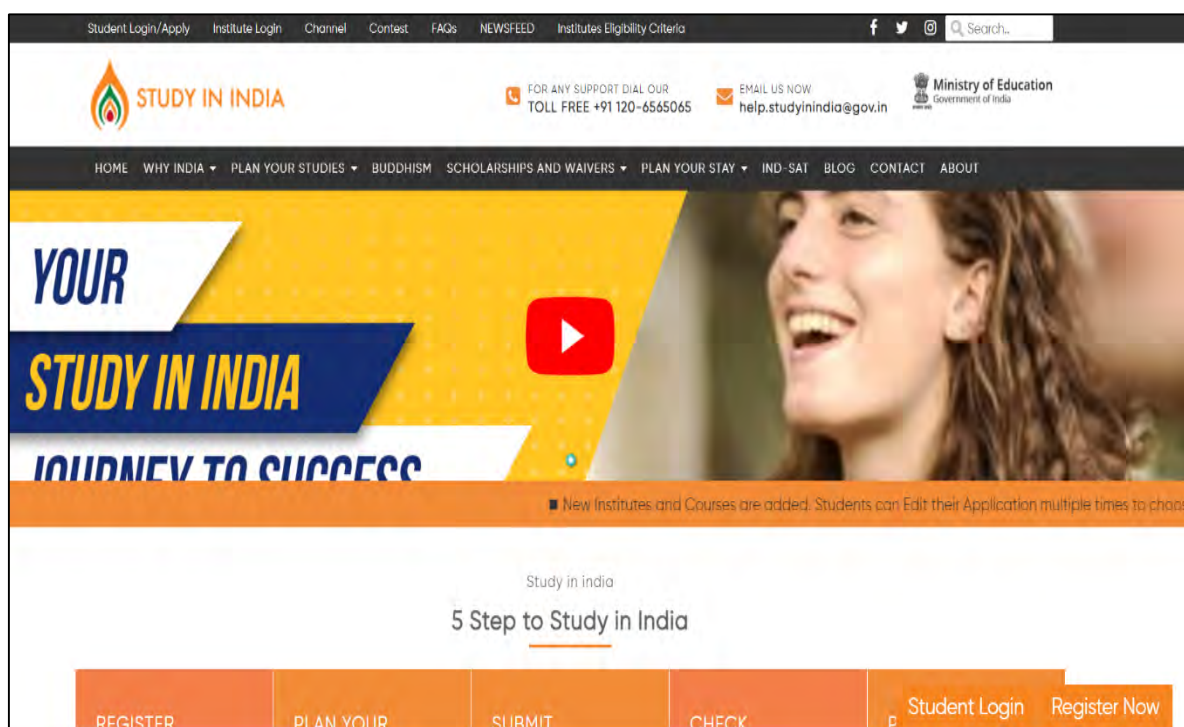
Fig. 64: Web Portal of Study in India

The INFLIBNET Centre has executed the following module of "Study in India":

- Updation in the website of SII,
- Institutional Module (online data capturing system to facilitate information flow from participating institutions, a dashboard for the nodal officer, statistics on counselling/admission,
- Learner Module (online registration of learners, courses offered [feature of choice-based filtration], dashboard), and
- Counselling module which includes counselling and final admission matrix.

10.4. Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT)

The Centre has executed the scheme Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) where the scopes of work were design, development and hosting of the dedicated portal of PMMMNMTT.

Fig. 65: Web Portal of PMMMNMTT

The Centre is working on this project and enabled the following features and functionalities for its different stakeholders:

- Portal: All information related to PMMMNMTT such as about scheme, list of Centres, program schedule, etc.,
- Call for Proposal,
- User/stakeholder of the different components: A dashboard for each component with the following activities:

  - Centre (LEAP, ARPIT, NRC, HRDC, TLC, FDC, SoE, etc.) Management
  - Profile Management
  - Program Management
  - Content Repository

10.5. National Testing Agency (NTA) (http://www.nta.ac.in)

The Centre is involved with National Testing Agency (NTA) since 2018 and as proposed, the following activities were continued for the year 2019:

- Portal and its hosting & maintenance: To handle Website dynamically through admin panel for various updates and changes.
- Test Practice Centre Module
- Admin Portal
- Mock Test
- Test Admin Portal

- Exam Centre
- TA Admin
- Admit Card
- Exam Result
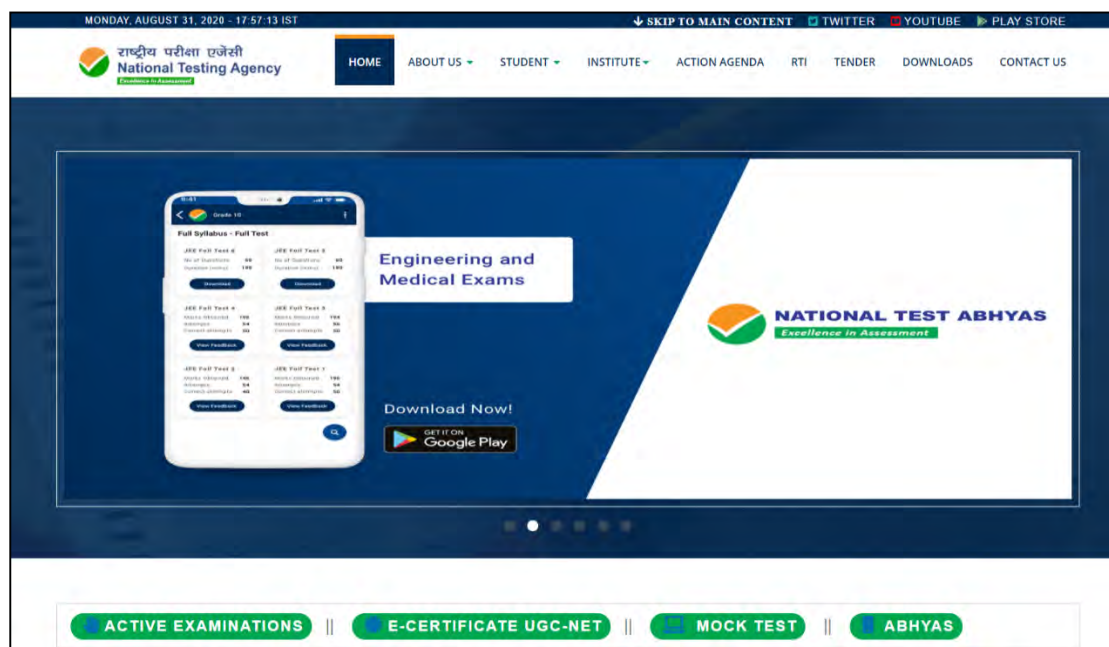
Fig. 66: Website of National Testing Agency

10.6. "Fit India" Movement

The MoE assigned the task to design, develop and maintain a portal for "Fit India Movement", a Ministry of Education initiative to support the Fit India programme of the Government of India. The project has been assigned to the Centre for a period of 03 years or as per mutual understanding based upon requirements. Under this project, the Centre is doing the followings:

o Website of Fit India
  - Aesthetically designed portal with intuitive web interface populated with relevant information
  - Web applications to support dynamic maintenance of the portal
  - Latest Event / upcoming event
  - Search and browse interfaces

o Institutional Module
  - Online data upload system to facilitate information flow from participating institutions
  - Dashboard for nodal officer
  - Provision of action plan and action report for each activity
  - Photo gallery for each event
  - Video gallery

- o Admin Module
  - To manage users (nodal officer, etc.)
  - Dashboard
  - Upload features on behalf of nodal officer, if required
  - Analytical reports
  - Communication system
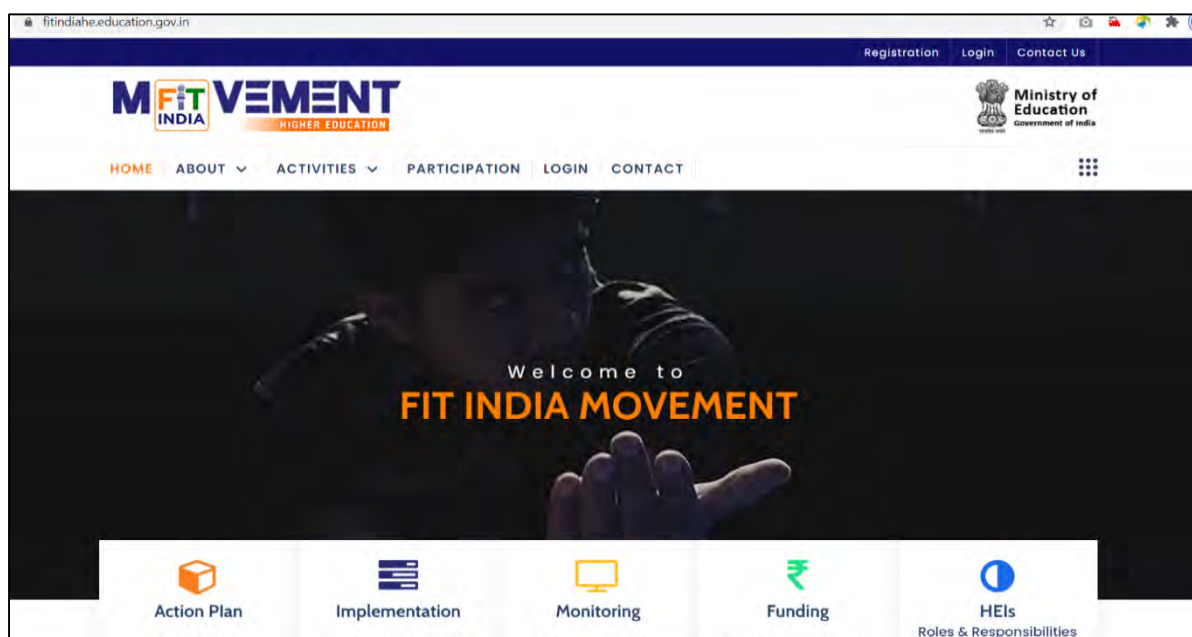
Fig. 67: Web Portal of Fit-India

10.7. Activity Portal for Association of Indian Universities (AIU), New Delhi

The INFLIBNET Centre has developed a new activity portal for Association of Indian Universities (AIU) which was launched by Shri Ramesh Pokhriyal 'Nishank' on 17th August 2020. This portal was launched virtually as part of the AIU National Conference of Vice Chancellors on "Reimagining Indian Universities". The AIU portal will provide value-added services to its members in terms of completely automating the equivalence of foreign degrees with Indian Universities. The portal will consist of several portals including AIU equivalence portal, AIU admission portal, AIU job portal, AIU sports portal, and AIU collaboration portal. AIU admission portal will provide one-click information to the students regarding the academic programmes in the different universities while the AIU job portal will help in connecting job seekers with the vacancies available in the different universities, and the AIU collaboration portal will help universities to showcase their best departments for forging national and international collaborations.

10.8. National Portal for Transgender Persons (Ministry of Social Justice and Empowerment)

The 'National Portal for Transgender Persons' was developed by the INFLIBNET Centre for the Ministry of Social Justice and Empowerment, GoI during the period and made it functional on Wednesday, 25th December 2020. This Portal was developed within 2 months of Notification of

Transgender Persons (Protection of Rights) Rules, 2020 on 29th September 2020. The portal "transgender.dosje.gov.in" enables a transgender person to apply for a certificate and identity card digitally from anywhere in the country, without having to visit any office. The most important benefit is that it helps the transgender person to get the I-Card without any physical interface and without having to visit any office. Through the Portal, they can track/monitor the status of their application and register their grievances in case of delays that ensure transparency in the process as well.
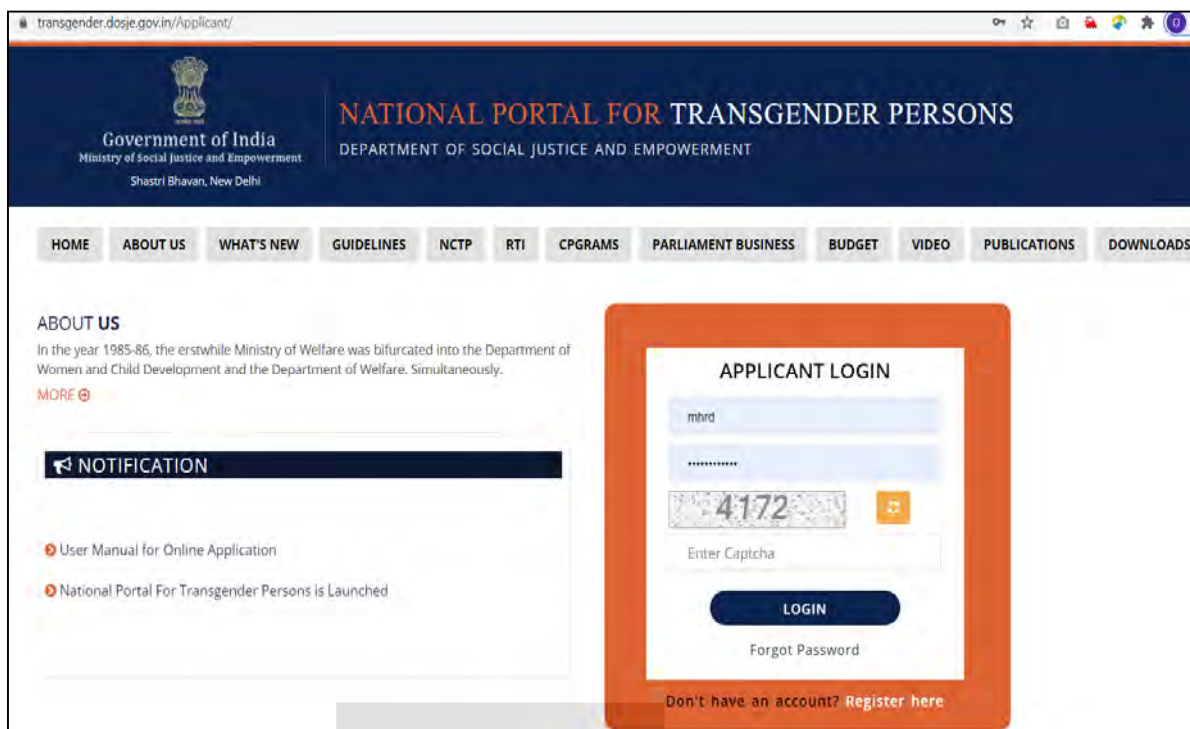
Fig. 68: National Portal for Transgender Persons

The Centre has signed MoU with the Ministry of Social Justice and Empowerment, Department of Social Justice and Empowerment, Government of India to computerize & automate the activities and processes of the "National Portal for Transgender Persons" so that it can function effectively and efficiently. The Centre is responsible for the design, development, hosting & maintenance of the transgender central portal.

The INFLIBNET Centre has developed the portal and online applications and certificate issue work has been started. The Centre is doing the following modules under this project:

o Front-end web interface of TCP
  ▪ Aesthetically designed portal with intuitive web interface populated with relevant information
  ▪ Web applications to support dynamic maintenance of the portal
  ▪ Latest notifications / event
  ▪ Search and browse interfaces, if required

- o Transgender Module
  - Online Application for Certificate and I-Card
  - Current Status of application
  - Provision of Re-apply, in case of rejection
  - Provision to submit a grievance

- o District Collector Module
  - Dashboard for District Collector (applications, grievance, communications)
  - User Creation (two kind of user -Checker and maker)
  - Checker for application verification and recommendation
  - Maker for Certificate / I-Card Generation
  - Response on the grievance, if any

- o State Module
  - Dashboard
  - Analytical reports within the state
  - Communication system within the state

- o Admin Module
  - Dashboard
  - Analytical reports
  - Communication system

10.9. Other Institutional Website Development and Maintenance

The INFLIBNET Centre was given several projects for developing, managing, and hosting their institutional websites by several Indian Institutions/Universities as mentioned below:

- Project for developing, commissioning, and managing a website for Sri Sri Aniruddhadeva Sports University, Dibrugarh, Assam.
- Project for revamping of the Central University of Gujarat's website and its hosting.
- The INFLIBNET Centre signed MoU with Jagat Guru Nanak Dev Punjab State Open University (JGNDPSOU), Patiala for automation/computerization of its various activities and processes required for effective and efficient day-to-day functioning.

11. UGC Website and e-Governance@UGC

11.1. UGC Website

The INFLIBNET Centre has continued the development/maintenance work related to the website as well as automation of UGC various schemes along with hosting.
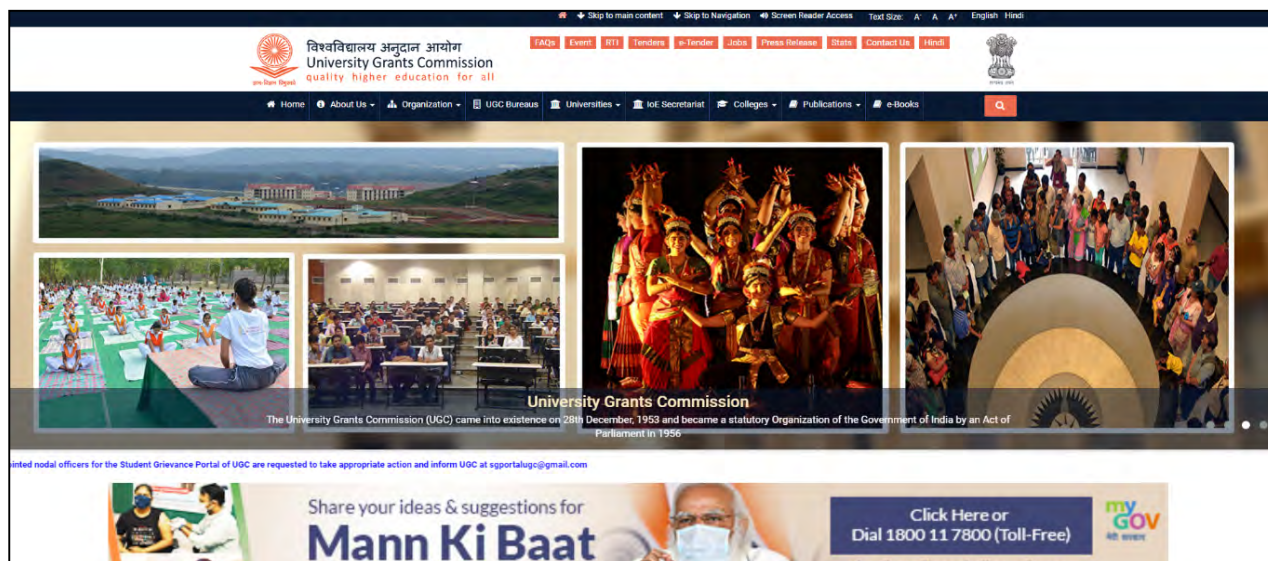
Fig. 69: Homepage of UGC

11.2. e-Governance@ UGC

The Centre has also been assigned the task of e-Governance activities for UGC, New Delhi. Functioning of dedicated IT cell at UGC including physical infrastructure has been done by the Centre.

11.3. Automation of Schemes

The Centre has developed Web API for UMANG mobile application. Besides, the centre has continued to maintain 30+ online systems related to scholarships, fellowships as well as other schemes of the UGC. Apart from that, the Centre worked on the UGC website security audit.

Further, the Centre automated the workflow of the UGC-DEB bureau where processes are being done in an online mode such as inviting applications, scrutiny of applications, Meeting module, communication module and reports.

11.4. Maintenance and Hosting of UGC Website and Online Systems

- All the online system developed and implemented along with the UGC websites are hosted at INFLIBNET Data Centre, Gandhinagar,
- Mirrored sites are also created at the BSNL Data Centre, Ahmedabad.

11.5. Development of Web Portal for Distance Education Bureau – UGC

The INFLIBNET Centre has developed a web portal for Distance Education Bureau - University Grants Commission. The portal was launched by Prof D P Singh, Hon'ble Chairman, UGC on Friday,

9th August 2020 in the august presence of Members of the Commission. The main aim of the portal is to automate all the UGC - DEB activities.

Fig. 70: Web Portal of Distance Education Bureau - University Grants Commission

12.   Human Resource Development, Capacity Building Programme & Consultancy

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 its establishment, INFLIBNET Centre has actively involved in various capacity building programmes, i.e. in-house and off-site workshops, conferences, seminars, specialized training programs etc. To date, the Centre has trained 84129 professionals through 828 such programmes. During the period under report, the Centre conducted 98 online short-term and long-term training programmes/workshops including webinars, awareness and other collaborative programmes that were attended by 39387 participants. Table-29 given below provides no. of human resources development programmes conducted and no. of participants who benefitted from these programmes during the year 2020-21.

Sl. No.	Name of the Programme	Programmes	Total Participants
1	Online Long-Term Specialised Training Programmes **(Five & Three-Day)**	09	549
2	Online Long-Term SOUL 2.0 Operations Training Programme (**Five-Day**)	07	171
3	Online Short-Term Programmes **(Webinar)**	22	6318
4	Online Short-Term Collaborative Programmes **(Webinar)**	09	2656
5	Online Short-Term Collaborative Programmes on **ESS Consortium** (**Webinar**)	25	21155
6	Regional Online Awareness Training Programme on **NLIST**	13	5175
7	Regional Online Awareness Training Programmes on **PDS**	15	3363
	Total	**98**	**39387**

Table-29: Conferences, Training Programmes, Workshops and Webinars conducted by INFLIBNET Centre during 2020-2021

13. Publications

The INFLIBNET Centre has two major publications, i.e. Quarterly INFLIBNET Newsletter and Annual Report. Both publications were brought out and distributed across all academic institutions in India. The copies of the INFLIBNET Newsletters and Annual Reports are downloadable in PDF format and the "Publications" on the INFLIBNET Centre website at https://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 https://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. Papers Published in Journals, Newsletters and Conference Proceedings

1. Joorel, J. P. S., Kumar, A., Chauhan, A. K. & Ahirwar, R., (2020). Patent Trends in Higher Education of India: A Study on Indian Central Universities. Proceedings of Fourth International Conference on ICTIS 2020. Presented at the ICTIS 2020, Ahmedabad (Online mode), India.
2. Joorel, J. P. S., & Kumar, A. (2020, April). COVID Outbreak: A Digital Warrior. NamoMantra, 1(1), 09.
3. Joorel, J P S., Kumar A., Solanki H., Raja V., Shah D., Pradhan P., Trivedi K., Singh P. (2020). Five years of India Rankings (2016 – 2020): An Evolutionary Study
4. Joorel, J P S., Solanki H., Kumar A., Shah D., Raja V., Trivedi K., Pradhan P., Singh P. (2020). Impact of Expanding Window from three years to five years for Research Performance parameter in India Rankings
5. Nassa A., Arora J., Singh P., Joorel, J P S., Solanki H., Kumar A., Trivedi K. (2020). Five Years of India Rankings (NIRF) and its Impact on Performance Parameters of Engineering Educational Institutions in India. Pt.1. Teaching, Learning and Resources, Graduate Outcome, Outreach and Inclusivity and Perception
6. Nassa A., Arora J., Singh P., Joorel, J P S., Trivedi K., Solanki H., Kumar A. (2020). Five Years of India Rankings (NIRF) and its Impact on Performance Parameters of Engineering Institutions in India. Pt. 2. Research and Professional Practices
7. Nassa A., Singh P., Arora J., Joorel, J P S., Solanki H., Kumar A., Trivedi K. (2020). Ranking of Indian Research-Intensive Higher Education Institutions using Multiple Ranking Methodologies: A Correlation Analysis
8. Tiwari, S., Kumar, A., Chauhan, A. K. (2020). A Quantitative Analysis of the Research Output of State Public Universities of Bihar: A Bibliometric Study.
9. Asnani, Roma Yogesh and Vyas, Priyanki. (2020). "A Scientometric Study on Literatures of the Journal 'Scientometrics'". Library Philosophy and Practice (e-journal). 4477. https://digitalcommons.unl.edu/libphilprac/4477

14. Awards, Honours & Distinctions, and Lecture Delivered

Prof J P Singh Joorel, Director

During this reported period, Prof Joorel launched many programs, participated in online lecture, and delivered various lectures, keynote & inaugural addresses, and valedictory remarks with the following details:

- Launched (Jointly with Prof R C Kuhad, Vice-Chancellor, Central University of Haryana) the INFLIBNET Learning Management Service (ILMS) at the Central University of Haryana on 23rd April 2020.
- Delivered the inaugural address as a Chief Guest in 'Two Days Faculty Development Programme on Managing Online Classes and Research' organized by Aligarh Muslim University, Aligarh on 29th April 2020.
- Participated in the Online Lecture on 'Reimagining Education in the Times of Pandemic and Beyond' delivered by Prof Ved Prakash, Former Chairman, UGC, organized by M D University, Rohtak on 29th April 2020.
- Delivered the keynote address in Webinar-cum-Group Discussion on 'Combating COVID-19 Pandemic: Perspective Role of Libraries as Means of Free Flow of Information', organized by Indian Library Association on 06th May 2020.
- Delivered a lecture as a Chief Guest in 'Online International Faculty Development Programme' organized by SNDT University, Mumbai on 12th -18th May 2020.
- Delivered the inaugural address as Chief Guest in 'Two Days Workshop on Sample Size Determination Using G-Power Software', organized by St John's College, Agra on 23rd May 2020.
- Launching of "So Say Indian Scholars on Statistics" on 25th May 2020.
- Delivered a lecture as a Chief Guest in National Level Webinar 'Transforming the Agricultural Knowledge Resource Centres to meet the post-COVID-19 Challenges' organized by Navsari Agricultural University, Navsari, Gujarat in collaboration with Association of Agricultural Librarians and Documentalists on 26th - 30th May 2020.
- Delivered the keynote address in Webinar-cum-Group Discussion on 'Various ICT Initiatives by INFLIBNET Centre and Their Usability for Academic Community, organized by the Madhya Pradesh Library Association (MPLA) on 31st May 2020.
- Delivered the inaugural address as Chief Guest in a One Day Programme on 'An Overview of Research Ethics & Plagiarism Issues', organized by INFLIBNET Centre on 3rd June 2020.
- Delivered the inaugural address as Chief Guest in a programme on 'Introduction to ETDs & Shodhganga/Shodhgangotri' organized by INFLIBNET Centre 5th June 2020.
- Delivered the inaugural address as Chief Guest in the 'Seminar Impact of COVID-19 on University Library System in India' organized by Karnataka University Library Associations in Collaboration with Gulbarga University Library on 09th June 2020.
- Delivered the inaugural address as Chief Guest in One Day Training Programme on 'Introduction to PDS and ShodhShuddhi' organized by INFLIBNET Centre on 12th June 2020.

- Delivered the inaugural address as Chief Guest in the 'International Online Conference on Mathematical Techniques and Applications' organized by Lakshmi Narayan College of Technology, Bhopal on 17th June 2020.
- Delivered the inaugural address as Chief Guest in Five Days Online Training Programme on 'Research Methodology and Ethics: Plagiarism Issues, Reference Management Tools and Altmetrics', organized by INFLIBNET Centre during 15th -19th June 2020.
- Delivered a lecture on 'Research Methodology and Research Planning' in Training Programme on Research Methodology and Ethics: Plagiarism Issues, Reference Management Tools and Altmetrics, organized by INFLIBNET Centre during 15th - 19th June 2020.
- Delivered the inaugural address as Chief Guest in the Ten Days National Faculty Development Program on 'e-Content Design, Development and Delivery' organized by Kavi Kulaguru Kalidas Sanskrit University, Ramtek in association with INFLIBNET Centre, Gandhinagar from 18th June to 27th June 2020.
- Delivered valedictory address as Chief Guest in the International Faculty Development Program on 'Research Methods and Analytical Techniques', organized by A.E. Kalsekar College, Mumbai on 23rd June 2020.
- Delivered the inaugural address as Chief Guest in the Faculty Development Program on 'Plagiarism Issues, Policies and Detection Tools', organized by Ram Lal Anand College, Delhi on 25th June 2020.
- Launched (Jointly with Prof R S Dubey, Vice-Chancellor, Central University of Gujarat) the INFLIBNET Learning Management Service at Central University of Gujarat on 07th July 2020.
- Launched (Jointly with Prof Rajbir Singh, Vice-Chancellor, Maharshi Dayanand University, Rohtak) the INFLIBNET Learning Management Service at Maharshi Dayanand University, Rohtak on 30th July 2020.
- Attended the Academic Council Meeting of Maharshi Dayanand University, Rohtak in July 2020.
- Attended the Meeting of the Governing Council of Sri YN College (AP Autonomous College), Narsapur, on 22nd July 2020.
- Participated in a roundtable discussion on "Paradigm Shift in Education and Research" organized by the South Asian Institute for Advanced Research & Development, Kolkata on 2nd August 2020.
- Delivered a keynote address in the One Day Webinar to Celebrate Librarians' Day on "Library as a Collaborator for Digital Learning" organized by School of Library and Information Science & Central Library, Central University of Gujarat, Gandhinagar on 12th August 2020.
- Attended the Academic Council Meeting of MIER College of Education on Friday, 21st August 2020.
- Delivered a lead lecture on National Education Policy 2020: Change the Landscape of Indian Learning, organized by Forum of Commerce & Management Studies India on 24th August 2020.
- Delivered a talk on Method Description along with Design, Number of Samples and Data Analysis in the Faculty Development Program "Approaches for Quality Research Paper Writing in High Impact Journals" organized by Rajiv Gandhi University, Arunachal Pradesh on 5th September 2020.

- National Webinar on Building Research Culture through NEP 2020, organized by M S University Baroda on 7th September 2020.
- Attended as Chief Guest and delivered a talk on National Education Policy-2020 organized by Swami Shraddhananda College, Delhi University, Delhi on 14th September 2020.
- Attended as Chief Guest and delivered a talk on National Education Policy-2020 organized by Maharaja Ganga Singh University, Bikaner on 15th September 2020.
- Attended the Meeting of the Governing Council of SDMCET, Dharwad (An Autonomous College) on 15th September 2020.
- Delivered a talk on "Role of Statistics in Machine Learning and Artificial Intelligence" in the International Conference on Recent Trends in Theoretical and Applied Statistics, organized by the Department of Statistics, Dibrugarh University, Assam during 19th – 20th September 2020.
- Chief Guest at the Inaugural Ceremony of the UGC-Sponsored Six-day Online Workshop on "MOOCs and Open Educational Resources" organized by UGC-HRDC, Bharathidasan University, Tiruchirappalli during 16th – 22nd September 2020.
- Participated in a panel discussion on "Challenging Challenges in Teaching, Mentoring" during National Meet on Making Mentoring Relevant: NEP-2020 Perspective on 21st September 2020.
- Delivered a talk on "INFLIBNET and Online Learning in Higher Education", in Guru-Dakshita - Faculty Induction Programme organized by UGC-HRDC, University of Allahabad on 22nd September 2020.
- Attended as Chief Guest & delivered an Inaugural lecture in the Refresher Course of Library and Information Science organized by UGC-HRDC, Department of Library and Science and Central library of Gujarat University on 28th September 2020.
- Delivered the Inaugural Lecture as a Guest of Honour at the Inaugural function during the one month "Faculty Induction Program" of MoE, Govt. of India on 3rd December 2020, organized by the Teaching Learning Centre of PMMMNMTT, SGTB Khalsa College, Delhi University, Delhi.
- Attended the meeting of the Governing Council of the SDMCET, Dharwad (An Autonomous College) on 17th December 2020.
- Delivered Valedictory lecture as Chief Guest in the Valedictory during 36th National Conference on "LIS Education, Research and Training in Covid-19 Era: Impact, Challenges and Opportunities" organized by the DLIS, Panjab University of Chandigarh and Indian Association of Teachers of Library and Information Science during 16th - 18th December 2020.
- Delivered the Inaugural address at the Three Days Capacity Building Programme on ICSSR Data Service conducted by INFLIBNET Centre from 15th - 17th December 2020.
- Delivered an Inaugural lecture as the Chief Guest in the Seminar on "New Direction for Academic Libraries: Change and Opportunities" organized by Sardar Patel University, Anand, Gujarat on 12th January 2021.
- Delivered an Inaugural lecture as the Chief Guest in the Seminar on "Management Issues of Libraries of 21st Century: Problem and Opportunities" organized by Sikkim University, Gangtok on 22nd January 2021.
- Delivered a talk in the Faculty Development Program (Guru Dakshata) organized by UGC-HRDC, Devi Ahilya Vishwavidyalaya, Indore on 8th February 2021.

- Delivered a talk on "Role of INFLIBNET in Growth and Development of Higher Education" in the Faculty Development Program on Teaching Learning and Assessment organized by the Central University of Rajasthan, Ajmer on 25th March 2021.

Mr Manoj Kumar K, Scientist E (CS)

Mr Manoj Kumar K was invited as a resource person and delivered lectures with the following details:

- Delivered a lecture to the participants on the topic 'Role of INFLIBNET in Higher Education: Special Reference to College Teacher & Researchers' on 23rd April 2020 via online platform-Parth Knowledge Network during the Covid-19 lockdown period in 8th Online Information Session which was organized by Mumbai University and College Teachers Association (MUCTA).
- Delivered a lecture to the participants on the topic 'Building a Network of Researchers using INFLIBNET Resources' on 09th May 2020 via 'Dr MGR UNIVERSITY PHASE II DIGITAL LEARNING' YouTube channel during the Covid-19 lockdown period in One Day Faculty Development Program on 'Challenges in Building Collaborations in Research and Innovation' which was jointly organized by Dr M.G.R Educational and Research Institute (Deemed to be University), Chennai and Dr Abdul Kalam Centre Innovation Entrepreneurship Development.
- Delivered a lecture on 'Plagiarism, Scientific Research with special-purpose on Plagiarism Policy, Penalty and Consequences' as part of the webinar on the topic 'Integrity and Ethical Considerations in the Conduct of Research' organized by Charotar University of Science and Technology (CHARUSAT), Nadiad on 21th May 2020.
- Delivered a lecture to the participants on the topic 'Online Resources for Research and Plagiarism' which was organized by Ansal University, Gurgaon on 2nd June 2020.
- Delivered a lecture on 'National Training Program' as part of Webinar on the topic 'Plagiarism and tools Special on URKUND Software' which was organized by Navsari Agricultural University, Navsari on 11th June 2020.
- Delivered a lecture as Resource Person on 'Training-cum-Awareness Programme on Shodh Shuddhi' which was jointly organized by the Department of Library and Information Science, Gauhati University in association with the Assam College Librarians' Association (ACLA) on 13th June 2020 via the online platform.
- Delivered a lecture as Resource Person and Panellist on the topic 'Use of Anti-Plagiarism Tool/Software for Qualitative Research Output' in the 'Two-week Capacity Building Programme for faculty members and research scholars under STRIDE Sponsorship' which was organized by the Department of Library and Information Science Alagappa University, Karaikudi on 21st June 2020 via the online platform.
- Delivered a Lecture on ICT during 84th Refreshers Course conducted by Human Resource Development Centre, Punjabi University Patiala on 17th August 2020.
- Delivered two lectures on the topics Research Ethics and Anti Plagiarism Tool during Online Programme on Digital Tools for Writing, Authoring and reviewing manuscripts on 26th

September 2020 organized by EICT, i.e. seven Electronics & ICT Academies, which have been set up by the Ministry of Electronics & IT, Government of India.

● Delivered a lecture to the participants on the topic 'Publishing and Research ethics' organized by Chitkara University on 17th March 2021 via the online Cisco Webex platform.

Mr Yatrik Patel, Scientist E (CS)

Mr Yatrik Patel was invited as a resource person and delivered lectures with the following details:

● Delivered two sessions in a webinar on "Overview of SOUL 3.0" on 11th May 2020.

● Delivered session on "Next Generation Technologies for Libraries" in a webinar series for the college principals and teachers of the affiliated colleges organized by Association of Self Financing Arts, Science and Management Colleges of Tamilnadu on 28th May 2020.

● Delivered lecture in the webinar on "Upcoming SOUl 3.0 for College and University Librarian" organized by Gujarat University Library on 2nd June 2020.

● Delivered a lecture on "Accessing Online Knowledge Resources with Special Reference to INFLIBNET" in FDP Titles Development of Career in Higher Education in India in the 21st Century organized by St. John's College Agra on 24th June 2020.

● Delivered a lecture on "Access to online resources with special reference to INFLIBNET" during an online faculty Development Programme, organized by UGC-HRDC, Dr Harisingh Gaur University on 24th August 2020.

● Invited as keynote speaker by Government Hamidia Arts and Commerce College, Bhopal for an online webinar and delivered a lecture on "Access to online resources with special reference to INFLIBNET" on 02nd September 2020.

● Delivered a lecture on "Access to online resources with special reference to INFLIBNET" during the online faculty Induction Programme organized by UGC-HRDC Osmania University, Hyderabad on 07th September 2020.

● Delivered a lecture on "Access to online resources with special reference to INFLIBNET" during an online Refresher Course in ICT organized by UGC-HRDC Gujarat University, Ahmedabad on 11th September 2020.

● Delivered a Lecture on "Accessing E-Resources with Special Reference to INFLIBNET" on 8th October 2020 during a live session for Refresher Course in Sociology organized by HRDC Gujarat University, Ahmedabad.

● Delivered a Lecture on "Access to e-resources with special reference to INFLIBNET" and "Information Security" on 28th October 2020 and 29th October 2020 respectively during a live session for the 1st Online Winter school for ICT from 19th October 2020 to 1st November 2020 organized by HRDC Gujarat University, Ahmedabad.

● Delivered lectures and interacted for all three days during Capacity Building Program on ICSSR Data Service during 15th - 17th December 2020.

● Delivered a lecture on SOUL 3.0 on 29th December 2020 for the 7th Refresher Course on Library & Information Science organized by UGC-Human Resource Development Centre, Gauhati

University, Guwahati in Online mode held during 28th December 2020 - 10th January 2021.

● Invited as a resource person to deliver a lecture on "Preparing for Next-Gen Library Services" during the 3rd National Webinar on "New Direction for Academic Libraries: Change and Opportunities" Organized by UGC-HRDC, Sardar Patel University on 12th January 2021.

● Invited to inaugurate a one-week online training programme on SOUL 2.0 for college library professionals of Assam organized by Assam College Librarians' Association (ICT Cell) to uplift the practical skills of college librarians of Assam in handling soul 2.0 software of INFLIBNET Centre during 21st to 27th February 2021.

● Attended an Online Vigilance Course for CVOs under Ministry of Education organized by CBI Academy, Ghaziabad (UP), and sponsored by Central Vigilance Commission on 22nd & 23rd February 2021 and 25th March 2021.

Dr Abhishek Kumar, Scientist E (CS)

Sh Abhishek Kumar has delivered the following invited lecture/webinar.

● Delivered webinar lectures on e-Learning: Content Creation & Content Repository and IRINS organized by Madhya Pradesh Shaskiya Mahavidyalaya Pustakalaya Adhikaree Sangh on 13th May 2020 and 22nd May 2020 respectively.

● Delivered lecture during the National webinar on "E-content creation and E-learning through MOOCS" organized by Barr Balasaheb Khardekar Knowledge Resource Center and Department of Lib & Inf Science under the Faculty Development Program on 4th June 2020.

● Delivered a webinar lecture during the Training Programme on E-content creation and E-learning through MOOCs organized by the Department of Library and Information Science, Gauhati University in association with Assam College Librarians' Association (ACLA) on 4th and 5th June 2020.

● Delivered a webinar lecture on e-Learning to the Faculty of Jai Hind College on 8th June 2020.

● Delivered an online lecture on the topic "MOOCs and OER" in the Webinar/Training Programme conducted by the Department of Library and Information Science, Sambalpur University, Odisha in collaboration with HRDC on 7th September 2020.

● Delivered an online lecture on the topic "E-Learning: Content, Component, Creation and it's Delivery" in the webinar conducted by BSSS College Bhopal on 28th August 2020.

● Invited as a resource person and delivered lectures on the topics "Role of INFLIBNET towards Academic Community" and E-Learning using MOOCs" in the 1st Online Faculty Induction Programme (Guru-Dakshta) from 17th August - 15th September 2020 organized by UGC-Human Resource Development Centre.

● Invited as a resource person and delivered a lecture on the topic "INFLIBNET Services towards Academic Community" in the UGC sponsored Online Refresher Course for Teacher Educators organized by UGC-HRDC, Gujarat University, Ahmedabad on 8th September 2020.

● Delivered an online lecture on the topic "e-Learning using MOOCs" on 07th September 2020 in the 7-days Short Term Course (STC)/Faculty Development Programme (FDP)" on the theme:

"Addressing the challenges of Online Teaching-Learning" during 04th - 10th September 2020 organized by UGC-Human Resource Development Centre, Panjab University, Chandigarh.

● Delivered an online lecture in the webinar entitled the "Role of Teachers and IQAC in Promoting Digital Initiatives in Higher Education Institutions" jointly organized by VIT- IQAC and Central Library, VIT, Vellore on 28th September 2020.

● Delivered two lectures on INFLIBNET's services including MOOCs on 11th October 2020 as a resource person during the 3rd Online Faculty Induction Programme (Guru-Dakshta) conducted by UGC-HRDC, Sardar Patel University, Vidyanagar.

● Delivered two lectures on INFLIBNET's services including MOOCs on 15th October as a resource person during the 2nd Online Faculty Induction Programme (Guru-Dakshta) conducted by UGC-HRDC, Sardar Patel University, Vidyanagar.

● Delivered lecture on "Working with Major Cloud Service Provider" on 9th November 2020 as a resource person during AICTE FDP program on Cloud Technology during 9th - 13th November 2020.

● Delivered two lectures on "e-Learning for the academic community" on 15th October as a resource person during 26th Online Short Term Course: E-Content Development and Online Pedagogy during 7th - 13th December 2020 conducted by UGC-HRDC, Sardar Patel University, Vidyanagar.

● Presented / Demonstrated Data Capturing Portal of "Atal Ranking of Institutions on Innovation Achievements (ARIIA) - 2021" to participate in Higher Educational Institutions on 22nd December 2020.

● Online training session on the INFLIBNET Learning Management Service and IRINS on 30th December 2020 for the faculty of Gondwana University, Gadchiroli.

● Delivered lecture on "Working with Major Cloud Service Provider" on 9th November 2020 as a resource person during AICTE FDP program on Cloud Technology during 9th - 13th November 2020.

● Delivered online lecture on "E-learning: content creation and MOOCs" as a resource person during 7th Refresher Course on Library & Information Science on 29th December 2020 conducted by UGC-Human Resource Development Centre, Gauhati University, Guwahati.

● Delivered a lecture on "ICT tools in teaching-learning process with LMS" on 8th January 2021 during Online Teachers Training Programme, conducted by Maharaja Bhoj Govt PG College Dhar (MP) under the aegis of MP higher education quality improvement programme.

● Delivered a lecture on "INFLIBNET Services to Learners (Higher Education): MoE initiatives, e-Resources, PDS" on 16th January 2021 as a resource person during Skill Enhancement Program Series, conducted by Graduate School of Engineering & Technology, GTU, Ahmedabad.

● Played the role of a Moderator during "Virtual International Conference on 'Statistical Tools & Techniques and Research Data Analysis (ICSTTRDA) – 2021" on 22nd January 2021 conducted by the Central University of Gujarat.

● Delivered a talk on "Infrastructure Necessary for MOOCs and SPOCs & MOOCs Providers" on 12th February 2021 during "Four Weeks Online Induction Training Program for Faculty Members of Higher Education Institutions (HEIs)" organized by the Teaching Learning Centre funded by

the Ministry of Education, New Delhi under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) at Central University of Rajasthan (TLC@CURaj).

● Delivered a lecture on "e-Learning: Content Creation Using MOOCs" on 3rd March 2021 during Six Days Online Short Term Training Program on "Recent Trends in Innovative & Smart Libraries in HEIs" organized by GTU, Ahmedabad.

● Webinar on "Capacity Building in e-Learning Era" organized by Faculty of Computer Applications, Ganpat University on 27th February 2021.

● Delivered a lecture on INFLIBNET Services towards e-Learning during AICTE sponsored One-week Online STTP on "New Dimensions in Research Support Services: A Contemporary Library Perspective" organized by Pt. Deen Dayal Upadhyay Central Library, J. C. Bose University of Science & Technology, YMCA, Faridabad on 17th March 2021.

Mr Abhishek Kumar also presented (over the web) a paper entitled "Patent Trends in Higher Education of India: A Study on Indian Central Universities" at the 4th International Conference on Information and Communication Technology for Intelligent Systems (ICTIS 2020), Ahmedabad during the 15th – 16th May 2020.

The Centres congratulates Mr Abhishek Kumar, Scientist D (CS) for being awarded the Doctor of Philosophy (PhD) Degree in Computer Science for his thesis entitled "Benchmarking model for Indian Higher Educational Institutions using Bibliomining" by Magadh University, Bodh Gaya.

Dr H G Hosamani, Scientist D (LS)

Dr H G Hosamani delivered a lecture in a webinar on "Overview of SOUL 3.0" organized by Assam College Librarians' Association on 12th May 2020.

Dr. Kruti J Trivedi, Scientist D (LS)

Dr Kruti Trivedi was invited as a resource person and delivered lectures with the following details:

● Delivered lecture on "Research Metrics: Calculation and Context" on 12th May 2020 in National Level Three Day Webinar on Research Capacity Building - a Strategy to Promote Research Culture in Higher Education, May 12-14, 2020 organized by Bhavan's Vivekananda College of Science, Humanities and Commerce, Secunderabad.

● Delivered lecture in a webinar on "NLIST: Facilitating e-resources, promoting knowledge and research through College Libraries" organized by DAV College, Chandigarh on 23rd June 2020.

● Delivered a lecture on "NLIST for Colleges' ' in a one-day National webinar on INFLIBNET as a Digital Platform: support for Academicians from teaching, learning process to academic advancement organized by Shet N.K.T.T. College of Commerce & Shet J.T.T. College of Arts, Thane in association with Library and Information Science Research Scholar's Forum (LISRSF), SRTMUN on 7th June 2020.

- Delivered a lecture on "Research Impact Metrics: Calculation and Context" in the Research Methodology course organized by the Gujarat Institute of Development Research, Ahmedabad on 9th February 2021.

Mr. Divyakant Vaghela, Scientist C (CS)

Mr Divyakant Vaghela was invited to deliver talks/lectures with the following details:

- Delivered two sessions in a webinar on "Overview of SOUL 3.0" on 11th May 2020.
- Delivered lecture in a webinar on "Upcoming SOUl 3.0 for college and University Librarian" organized by the Gujarat University Library on 02nd June 2020.
- Delivered a lecture on "ICSSR Data Service (Development Tools, Administration, User Management & Site Management), Demonstration on Data Analytic Tool" and Interacted for all three days during Capacity Building Program on ICSSR Data Service from 15th to 17th December 2020.

Mr Swapnil P Patel, Scientist C (CS)

Mr Swapnil Patel delivered a lecture on "IR and Dspace" on 4th January 2021 for the 7th Refresher Course on Library & Information Science organized by UGC-Human Resource Development Centre, Gauhati University, Guwahati in Online mode held from 28th December 2020 - 10th January 2021.

Mr Dinesh Ranjan Pradhan, Scientist - C (LS)

Mr Dinesh Ranjan Pradhan was invited to deliver the below invited talks/lectures:

- Delivered a lecture on the topic "Discovery-Based Services for Libraries" during the Online Library Training Programme for MLIS students conducted by the Department of Library and Information Science, Central University of Haryana, Mahendragarh on 1st August 2020.
- Delivered lecture on the topic "e-resource efficacy for research" on 22nd November 2020 in the Course Work for PhD Scholars on Legal and Interdisciplinary Research organized by Gujarat National Law University, Gandhinagar.
- Delivered Lecture in National Webinar on "N-LIST Users and Awareness Programme" held on 3rd November 2020 by SPH Mahila Mahavidyalaya, Malegaon Dist. Nashik, Maharashtra
- Delivered a lecture on the topic "Use of E-resources in Research" at Gujarat Institute of Development Research on 9th February 2021.

Dr Miteshkumar Pandya, Scientist C (LS)

Dr Miteshkumar Pandya was invited as a resource person and delivered lectures with the following details:

- Delivered an online lecture on the Use of Reference Management and Academic Report Writing in the National Webinar on Research Programming organized by the Knowledge Resource Centre, North Maharashtra University Jalgaon on 22nd May 2020.
- Delivered an online lecture on Referencing in Research and Web-Based Citation Tools in One Day National Webinar on Smart Tools for Enhancing the Research Skills jointly organized by Matru Sewa Sangh Institute of Social Work, Nagpur Bar. Sheshrao Wankhede Mahavidyalaya, Mohpa Dist-Nagpur Dr Babasaheb Ambedkar College of Arts, Commerce & Science, Bramhapuri Yadaorao Poshattiwar Arts College, Talodhi(Balapur) on 28th May 2020.
- Delivered an online lecture on the Use of Reference Management and Academic Report Writing in the Three Days National Workshop on Advance Educational Techniques in Science & Humanities organized by Vasantrao Naik Art's Science and Commerce College, Shahada Dist. Nandurbar, Maharashtra on 03rd June 2020.
- Delivered an online lecture on Managing References in Mendeley and Writing Research Report in the Faculty Development Programme organized by Navsari Agriculture University on 09th June 2020.
- Delivered an online lecture on Effective use of Reference Management System in Research in the Workshop organized by Directorate of Research of Manipal University Jaipur on 27th June 2020
- Delivered an online lecture on Streaming Workshop on Streaming Research Publication and Improving Visibility and Citations in the Workshop organized by University Library, Parul University on 28th October 2020.
- Delivered an online lecture on Managing Reference using Reference Management Tools: Zotero & Mendeley in the Short Term Training Program (STTP) organized by Nirma University on 24th November 2020.
- Delivered an online lecture on Indexing the Dataset with DDI Metadata & Demonstration of HASSET thesaurus in the online Capacity Building Programme organized by INFLIBNET Centre on 17th December 2020.
- Delivered two online lectures on "Research Data Management: Librarian's Role" and "Streaming Research Publication & Improving Visibility and Citations" in Refresher Course in Library & Information Science organized by HRDC Gauhati University on 2nd January 2021.
- Delivered online lecture on "Learning Collision with INFLIBNET Centre for Research" in coursework organized by Shri Guru Govind University, Godhara on 15th February 2021.
- Delivered a session on "Reference Management Tools" as a resource person for the One-day online workshop on Reference Management Tool on 19th March 2021 (Phase-II) organized by the Department of Education, Guru Ghasidas Vishwavidyalaya, Bilaspur under PMMMNMTT Scheme of MOE, New Delhi.

Mr Hiteshkumar Solanki, Scientist C (CS)

Mr Hiteshkumar Solanki was invited to deliver the below-invited talks/lectures:

- Conducted online session on Introduction to RMarkdown for Scholarly Communications in a seven-day National Level Virtual Capacity Building Programme funded under TEQIP-III titled e-

Shodhyatra: Emerging Trends and Technologies in Scholarly Communication on 28th November 2020 specially targeted to research scholars and early career researchers organized by Institute of Chemical Technology, Mumbai and VES College of Arts, Science and Commerce, Mumbai during 23rd November - 4th December 2020.

● Conducted online session on Learning Coalition with INFLIBNET with a major focus on IRINS-Vidwan and INFLIBNET activities and services organized by Ahmedabad University, Ahmedabad on 14th October 2020.

● Delivered an online lecture on "Detailed Process of Uploading the Datasets (including ETL of Datasets)" in Three Days Capacity Building Program for ICSSR, New Delhi Staff organized by INFLIBNET Centre during 15th - 17th December 2020.

● Conducted an online session in TEQIP-III Sponsored Faculty Development Programme on "Awareness of VIDWAN-IRINS: A Government Initiatives" organized by B V M Engineering College, Vallabh Vidyanagar on 13th March 2021.

● Conducted online session on "Vidwan-IRINS" during 7th Refresher Course on Library & Information Science organized by UGC-Human Resource Development Centre, Gauhati University, Guwahati from 28th December to 10th January 2021.

● Conducted an online session on "Parametric Test using R" in online Coursework for the research scholars of 2020-21 organized by Shri Govind Guru University on 15th February 2021.

● Conducted online workshop on "R Markdown: Authoring Framework for Scholarly Communication" in Two-Days Virtual International Conference on 'Statistical Tools and Techniques for Research Data Analysis' (ICSTRDA -2021) organized by School of Library and Information Science (SLIS), Central University of Gujarat, Gandhinagar during 21st to 22nd January 2021.

Mr Pallab Pradhan, Scientist C (LS)

Mr Pallab Pradhan was invited as a resource person and delivered lectures with the following details:

● Delivered three lectures on Reference Management Tools: Mendeley, Zotero, and Research Ethics, Plagiarism & Its Prevention as a Resource Person in the Webinar on "Research Scholars Empowerment Programme (RSEP IV)" held on 14th & 15th May 2020 organized by the Teaching Learning Centre (TLC), CIT Coimbatore.

● Delivered a session on "INFLIBNET's Digital Initiatives & Activities" as a Resource Person in the "One Day National Webinar on "INFLIBNET as a Digital Platform: Support for Academicians from Teaching, Learning Process to Academic Advancement" on 07th June 2020 organized by Learning Resource Centre & IQAC in association with 'Library and Information Science Research Scholars Forum' (LISRS-Forum), Swami Ramanand Teerth Marathwada University, Nanded.

● Delivered a session on Reference and Citation Management Tools for Research Writing as a Resource Person in the one-day National Webinar on "Role of Libraries To Enhance The Teaching-Learning Skills" on 8th June 2020 organized by Jagat Arts, Commerce and Indiraben Hariharbhai Patel Science College, Goregaon.

- Delivered two sessions on "Software tools for Research, Bibliographic Management, and Data Analysis & Visualization" as a resource person on 2nd February 2021 for the GURU-DAKSHTA Faculty Induction Program (FIP) of 2020 - 21 held during 1st - 8th February 2021 hosted/organized by the office of the Director of Academics, Vinayaka Missions Research Foundation (Deemed to be University), Salem, Tamilnadu, India.
- Delivered two sessions on "Reference Management Tools" as a resource person for the two One-day online workshops on Reference Management Tool on 12th March 2021 (Phase-I) and 19th March 2021 (Phase-II) organized by the Department of Education, Guru Ghasidas Vishwavidyalaya, Bilaspur under PMMMNMTT Scheme of MOE, New Delhi.

Mr Raja V, Scientist C (CS)

Mr Raja V was invited as a resource person and delivered lectures with the following details:

- Delivered online lectures on the topics 'Academic Services at MOE-INFLIBNET' during one-day Webinar on Faculty Development Programme organized by Vellalar College for Women, Tamilnadu on 24th April 2020.
- Delivered online lectures on the topics 'Role of INFLIBNET and Its Services for Higher Education' during one-day Webinar on Faculty Development Programme organized by Sri Krishna Arts and Science and Engineering college, Coimbatore on 27th April 2020.
- Delivered online lectures on the topics 'Citation Improvement and Academic Services' during Five-day Webinar on Faculty Development Programme organized by Vivekananda College of Engineering for Women, Tamilnadu on 09th May 2020.
- Delivered online lectures on the topics 'Library and Scholarly Communications' during One Day Webinar Series on Library and Scholarly Communication Services organized by Alagappa University, Tamilnadu on 14th May 2020.
- Delivered online lectures on the topics 'Access to Information for Professional Development' during One Day Webinar Series on Faculty Development Programme organized by Association of Self Financing Colleges, Tamilnadu on 20th May 2020.
- Delivered online lectures on the topics 'INFED and its features' during Two-day Webinar Series on Faculty Development Programme organized by Avinashilingam University is a women's Deemed University, Tamilnadu on 03rd June 2020.
- Delivered online lectures on the topics 'Federation Access Management in India' during Webinar series for Library Science Professions organized by LIS Academy, Bangalore on 07th June 2020.
- Delivered online lectures on the topics 'Academic Services at MOE-INFLIBNET' during Webinar on Faculty Development Programme organized by Government Arts College, Salem 25th June 2020.
- Delivered an online talk on the topic of "Academic Research & Citation Improvement" in the FDP program conducted by Dr M.G.R.Educational & Research Institute (Deemed to be University), Tamilnadu on 2nd July 2020.

- Delivered an online lecture on the topic of "Open Access Repositories and its usages" in the FDP program conducted by JSS College of Pharmacy, Tamilnadu on 11th July 2020.
- Delivered an online lecture on the topic of "Academic facilities at INFLIBNET and Publication and Citation Improvement" in the FDP program conducted by Government Arts College for Women, Salem, Tamilnadu on 22nd July 2020.
- Delivered an online lecture on the topic of "INFLIBNET Activities" to the Librarians in a webinar conducted by the Vinayaka Mission's Research Foundation, Tamilnadu on 20th August 2020.
- Delivered an online lecture on the topic of "Higher Education Services offered by UGC/INFLIBNET" in the FDP program conducted by the Sree Saraswathi Thyagaraja College, Tamilnadu on 10th September 2020.
- Delivered an online lecture on the topic of "Higher Education Services Offered by UGC / INFLIBNET" in the FDP program conducted by Selvam College of Technology, Tamilnadu on 23rd September 2020.
- Delivered a talk on the topic of "Academic Research & Citation Improvement" on 17th October 2020 in their NAAC Webinar conducted by PSG College of Nursing, Tamilnadu.
- Delivered a lecture on the topic of "Cloud Technology" on 17th October 2020 organized by Adithya Institute of Technology, Tamilnadu.
- Delivered a lecture on the topic of "Cloud Technology" on 8th December 2020 organized by GITAM University, Hyderabad.
- Delivered a lecture on the topic of "INFED and Cloud Hosting" on 11th December 2020 to their Awareness programme conducted by AMET University.
- Delivered a lecture on the topic 'Enhancing Research Culture through Citation Index' on 5th January 2021 during the FDP program conducted by Sree Saraswathi Thyagaraja College, Tamilnadu.
- Delivered a lecture on 'Importance of Cloud Computing for Librarians' during AICTE & GTU Sponsored Online Short Term Training Program on "Recent Trends in Innovative & Smart Libraries HEIs" organized by Gujarat Technical University, Ahmedabad on 4th March 2021.

Mr. Kimidi Siva Shankar, Scientist B (LS)

Mr Kimidi Siva Shankar was invited as a resource person and delivered lectures with the following details:

- Delivered online lectures on the topics "Indian Research Information Network System (IRINS)" on 04th June 2020 in the event titled 'Two Days Webinar on Information Access for Professional Development & Research Collaboration' organized by Avinashilingam Institute for Home Science and Higher Education for Women, Tamilnadu.
- Delivered two lectures titled "Role of INFLIBNET Centre and its services for Higher Education System" in the event 'A Three Day International Webinar on Post COVID19: Challenges and Opportunities of Libraries and Library Professionals' on 04th June 2020 organized by Department of LIS, Andhra University, Visakhapatnam, Andhra Pradesh.

● Delivered online lectures on the topics "Search Strategies and Search Engines" on 07th June 2020 in the event titled 'LIS Academy & NCSI Net joint Webinar Lecture Series' organized by LIS Academy, Bengaluru.

Dr Suboohi Siddiqui, Scientist B (LS)

The Centres congratulates Ms Suboohi Siddiqui, Scientist B (LS) for being awarded the Doctor of Philosophy (PhD) Degree in Library and Information Science for her thesis entitled "Access and Use of e-resources by the Faculty members and Students in Economics: A study of select Universities in Delhi" by the University of Delhi, Delhi.

Mr Dharmesh Shah, STO (CS)

Mr Dharmesh was invited as a resource person and delivered lectures with the following details:

- Delivered an online lecture on "Applications of ICT in Library Resources Management" for Library professionals, faculty members, research scholars and students organized by the Karnataka State Rural Development and Panchayat Raj University, Gadag, Karnataka on 12th August 2020.
- Participated in an online Hands-on Training course on Blockchain Technology & Application Development from 25th January 2021 to 05th February 2021 for officials from Government Departments as part of Future Skills PRIME; a Govt. of India (MeitY)'s initiative.
- Invited to attend the online meeting on the discussion on e-NBA server migration on 13th January 2021.
- Invited to attend an online meeting on the discussion on the development of the website and mobile app for 'Study in India' program on 10th February 2021.
- Invited to attend the online meeting to discuss the API and service received of UGC to integrate on UMANG Application on 12th February 2021.

PART – III

National & International Conferences, Workshops, Seminars and Training Programmes

1. SOUL 3.0 Launching Ceremony: A Report

The launching ceremony of SOUL 3.0 (A state-of-the-art integrated library management software) developed by INFLIBNET Centre was held on 24th February 2021 through online mode. Prof D P Singh, Hon'ble Chairman, University Grants Commission, New Delhi and Hon'ble Chairman, Council, INFLIBNET Centre; and Prof Yogesh Singh, Hon'ble Chairman, Governing Board, INFLIBNET Centre and Vice-Chancellor, Delhi Technological University, New Delhi graced the occasion as the Chief Guest and the Guest of Honour respectively to launch SOUL 3.0 in the presence of Members of the Governing Board & Council, INFLIBNET Centre, Dr Manju Singh, Joint Secretary, UGC, Vice Chancellors of various universities, Librarians/professionals of different Universities, Colleges and other institutions, and staff members of INFLIBNET Centre.

Mr Manoj Kumar K, Scientist-E (CS), INFLIBNET Centre initiated the event and welcomed all the guests, dignitaries and participants. Further, he briefed about the event to the audience.

Prof J P Singh Joorel, Director, INFLIBNET Centre presented the welcome address. In his address, he introduced and welcomed the Chief Guest of the ceremony, Prof D P Singh, Chairman, University Grants Commission & Hon'ble Chairman, Governing Council; and the Guest of Honour, Prof Yogesh Singh, Vice-Chancellor, DTU & Hon'ble Chairman, Governing Board, INFLIBNET Centre along with all the other dignitaries. He highlighted the few ongoing remarkable activities of the Centre during the covid-19 lockdown like ILMS, INFED, IRINS & VIDWAN, etc.; and few other important upcoming activities of the Centre like the development of the Web Version & Cloud-based SOUL Software, ShodhChakra, and Plagiarism Detection Software, etc. He concluded his address by conveying his sincere thanks to the entire UGC Team under the Chairmanship of Prof D P Singh for extending their continuous support always to INFLIBNET Centre as and when required.

Fig. 71: Prof J P Singh Joorel, Director, INFLIBNET Centre during the Inaugural session of SOUL 3.0

Mr Yatrik Patel, Scientist-E (CS) briefed about the new SOUL 3.0. He shared his experience regarding the journey of the development of Library Management Software starting from command line based ILMS to SOUL 3.0 in the Centre, which was followed by a short film featured on SOUL 3.0. He also elaborated about all the new features incorporated in SOUL 3.0 to cater to all kinds of Library setup.

Soon after the briefing of SOUL 3.0, the Guest of Honour, Prof Yogesh Singh congratulated Prof J P Singh Joorel, Director and the entire team @INFLIBNET for developing SOUL 3.0. In his speech, he pointed out how the Covid-19 pandemic has opened many opportunities for the digital world. He highly appreciated and complimented the entire team @INFLIBNET for the many outstanding projects & activities undertaken and implemented by the Centre related to academic, research and assessment fields like NIRF, NAAC, e-NBA, ARIIA, etc. to name a few. He further suggested and urged the team @INFLIBNET to explore and start to work towards developing software tools like University Examination Software, HRM Software for Universities, Research Analytics Tools, Centralized Software Facility, Learning Management Tools, Centralized Research Repository, etc. He ended his address by wishing good wishes to the team @INFLIBNET and for SOUL 3.0.
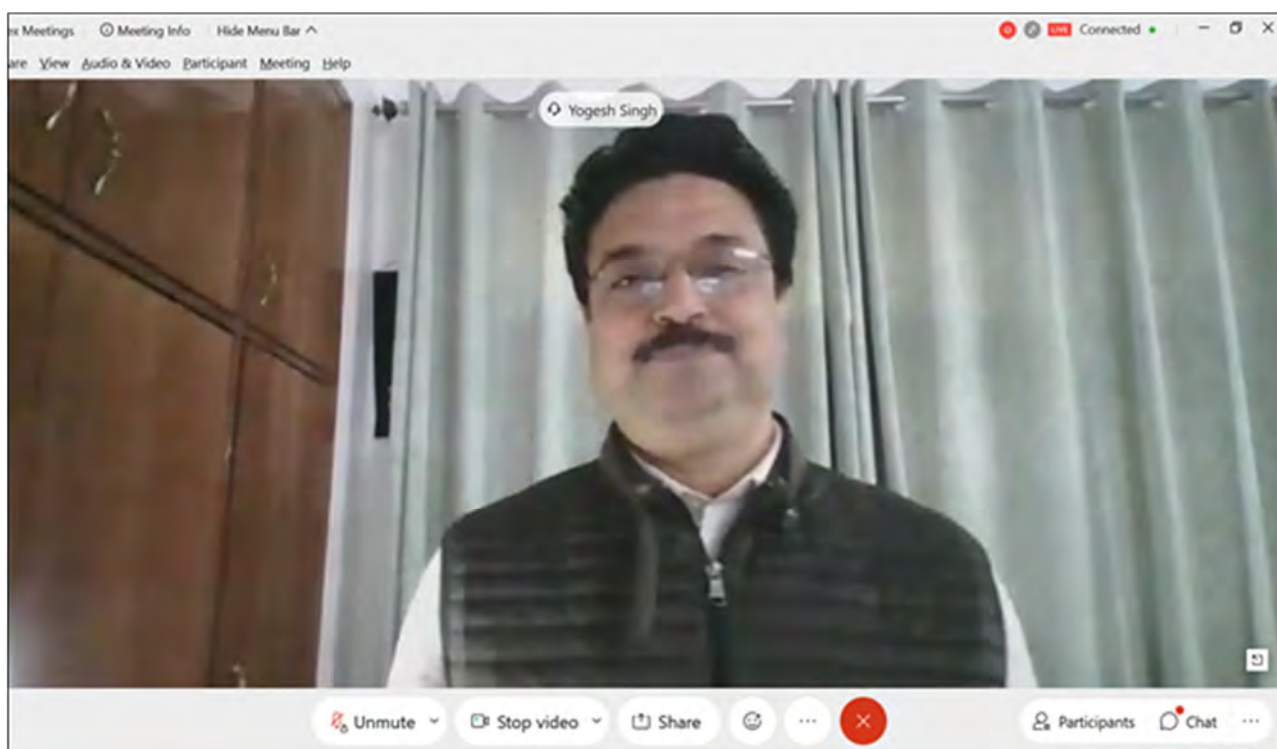

Fig. 72: Prof Yogesh Singh, Vice-Chancellor, Delhi Technical University and Chairman, Governing Board, INFLIBNET Centre during the Inaugural session of SOUL 3.0

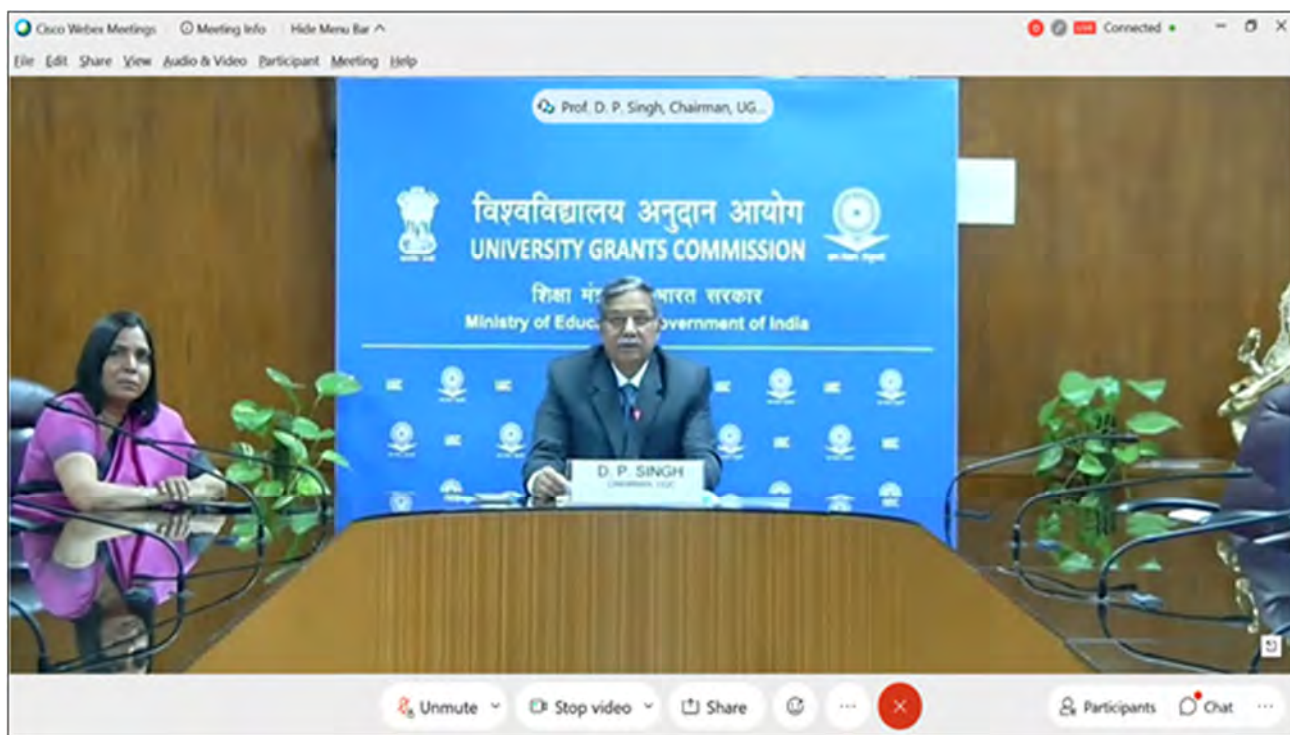Then, Hon'ble Chief Guest, Prof D P Singh launched SOUL 3.0.

Fig. 73: Prof D P Singh, Hon'ble Chairman, UGC launched SOUL 3.0

Starting with his inaugural speech, Prof D P Singh at first congratulated the team @INFLIBNET for launching SOUL 3.0. He emphasized the very need of technologies in every walk of life, specifically in the Education sector and how we have seen it, witnessed, observed and experienced during the ongoing Covid-19 pandemic. He further highlighted the role played by the INFLIBNET Centre along with other IUCs during this difficult time. He puts light on the New Education Policy (NEP 2020), which has come after a long gap of 34 years on 29th July 2020 which has been a historic day for the education system of India after the approval of the Cabinet, Government of India. He said that the NEP 2020 is the 1st policy of the 21st century in India and it reflects the aspirations and expectations of our diverse nation, and how it will help our Indian students to become a global citizen. Talking about SOUL 3.0, he urged that SOUL 3.0 should be adopted and used across educational institutions, govt. departments & organizations, etc. He opined that as there is no alternate to teachers & teaching, there is no alternate for libraries. Libraries do have their own importance, as such books do have their own importance & qualities, connected to the world of knowledge, writing and cultural development. He urged all the participant librarians to keep on & maintain the importance and dignity of libraries and try to maintain a proper conducive reading environment as well in their libraries whereby students/learners would get attracted to visit the libraries. Also, he suggested that the librarians must try to inculcate general reading habits among the students/learners as it is decreasing day-by-day in our country. At the end of his speech, he thanked all the participants and congratulated the team @INFLIBNET, and assured continued help and guidance as always to the INFLIBNET Centre to do more for the academic community in the country and reach new milestones.

At the end of the event, Dr H G Hosamani, Scientist-D (LS) proposed the formal vote of thanks to the dignitaries and all the participants across the country for gracing the occasion.
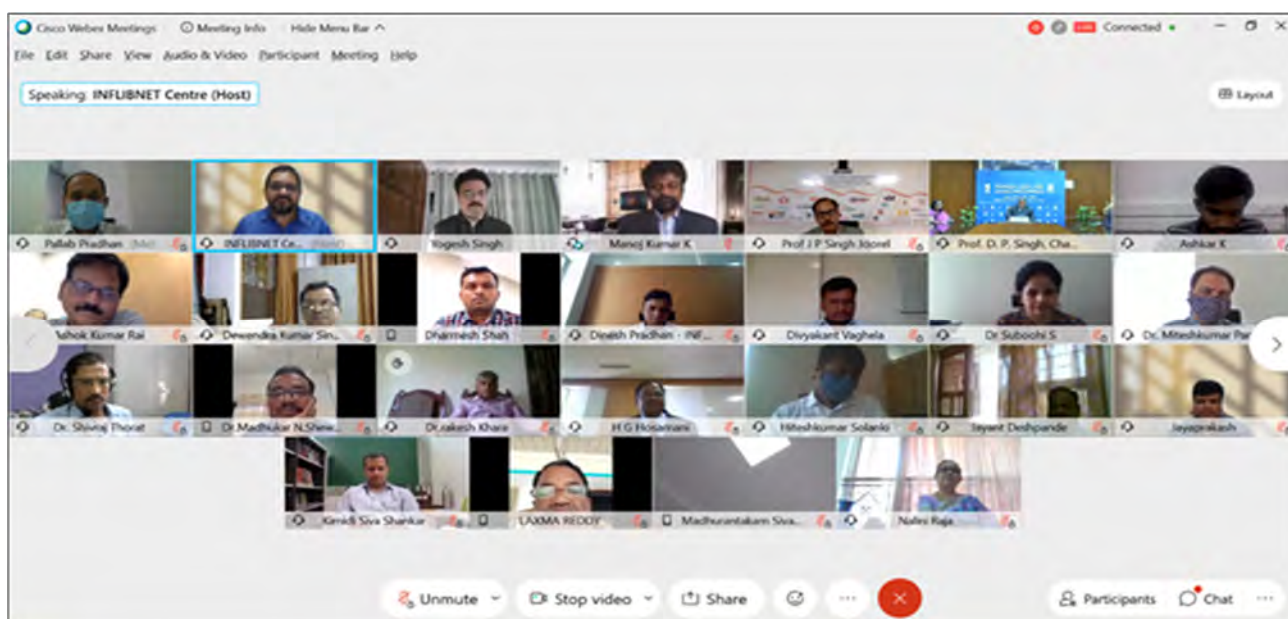

Fig. 74: Participants and INFLIBNET Staff during the Inaugural session of SOUL 3.0

2.   Training Programmes on SOUL 2.0: Installation and Operations

The INFLIBNET Centre has taken initiatives to conduct short- and long-term online training programmes due to the pandemic situation of Covid-19 across the country. In this connection, 7 Online Training Programmes on Installation and Operations of SOUL 2.0 were conducted by the INFLIBNET Centre. The training programmes were announced on the website through the HRD portal and emails were sent to SOUL users. The online theory and practical sessions were conducted through Google Meet.

For practical sessions, PCs pre-installed with SOUL 2.0 software were provided to the participants from the Computer Lab via remote access through the AnyDesk application. For better interaction of all participants with the technical staffs of the Centre along with hands-on practice, the live SOUL demonstration was also arranged parallelly through online mode. A total of 171 participants attended the training programmes.

Sl. No.	Name of Programme	Date	No. of Participants
1	1st Online Training Programmes on SOUL 2.0	1st - 5th June 2020	23
2	2nd Online Training Programmes on SOUL 2.0	6th - 10th July 2020	24

3	3rd Online Training Programmes on SOUL 2.0	31st August - 4th September 2020	26
4	4th Online Training Programmes on SOUL 2.0	2nd - 6th November 2020	23
5	5th Online Training Programmes on SOUL 2.0	4th - 8th January 2021	14
6	6th Online Training Programmes on SOUL 2.0	15th - 19th February 2021	30
7	7th Online Training Programmes on SOUL 2.0	22nd - 26th March 2021	31

Table-30: List of Online Programmes on SOUL 2.0 conducted by INFLIBNET Centre

3.   **Webinar on Awareness Sessions under eShodhSindhu**

INFLIBNET Centre has organized the following webinars for all members of **eShodhSindhu** (ESS) Consortium in collaboration with the respective publishers for increasing effective use of e-resources provided by ESS Consortium. A total of 21155 participants attended the sessions online.

Sl. No	Sessions	Date	No. of Participants
1	SciFinder Scholar	13th May 2020	533
2	Web of Science Certification Series (Session - 1)	14th May 2020	3618
3	Web of Science Certification Series (Session - 2)	18th May 2020	3498
4	Taylor & Francis	19th May 2020	826
5	American Institute of Physics	20th May 2020	100
6	Web of Science Certification Series (Session - 3)	21st May 2020	2770
7	American Chemical Society	22nd May 2020	90
8	American Physical Society	22nd May 2020	80
9	SIAM	22nd May 2020	50
10	Project Muse	22nd May 2020	60
11	BRILL	22nd May 2020	50
12	Web of Science Certification Series (Session - 4)	25th May 2020	2314
13	JSTOR	26th May 2020	100
14	Web of Science Certification Series (Session - 5)	28th May 2020	2641
15	Discover Emerald journals for your research	02nd June 2020	691
16	Oxford University Press	03rd June 2020	187

17	Legal Analytics & Research on Manupatra	05th June 2020	85
18	Westlaw India Research Training (Session-1)	10th June 2020	121
19	The value of the review presented by Annual Reviews	11th June 2020	105
20	Westlaw India Research Training (Session-2)	17th June 2020	91
21	Trends in Publishing by Springer Nature	16th June 2020	548
22	The people and the principles behind Nature – the what, the why and the how	18th June 2020	882
23	Westlaw India Research Training (Session-3)	24th June 2020	62
24	Publishing Ethics: the role of publishers, journals, researchers and institutions	25th June 2020	883
25	The Humanities & Social Sciences: why they are critical to our understanding of today's complex and challenging world	30th June 2020	770

Table-31: List of webinars on Awareness Sessions under eShodhSindhu

4. State Level Online Awareness Programme on PDS-ShodhShuddhi

The INFLIBNET Centre organized 15 State Level Online Awareness Programme on "PDS-ShodhShuddhi" from 13th July to 21st August 2020 and a total of 3363 participants attended the programmes conducted for all States and Union Territories. Mr Manoj Kumar K, Scientist - E (CS) and Ms Suboohi Siddiqui, Scientist - B (LS) coordinated the programme with the support of M/s. eGalactic Team. During the programme, the Universities that have not signed MoU for Shodhganga as well as are not using PDS are identified.
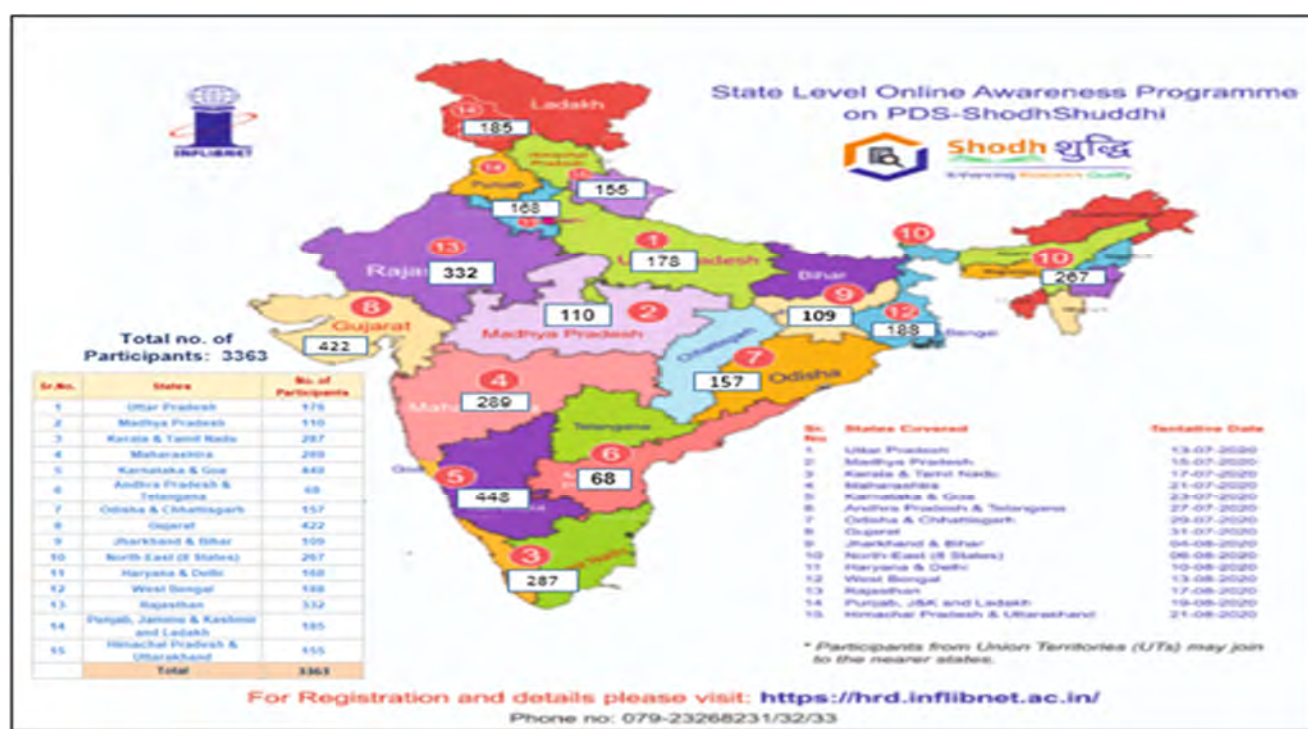

Fig. 75: Pan-India Level State level Programmes on PDS-ShodhShuddhi conducted by INFLIBNET Centre

Sl. No	States	Date	No. of Institutions	No. of Registrations	No. of Participants
1	Uttar Pradesh	13th July 2020	79	543	178
2	Madhya Pradesh	15th July 2020	68	257	110
3	Kerala & Tamil Nadu	17th July 2020	83	773	287
4	Maharashtra	21st July 2020	66	1020	289
5	Karnataka & Goa	23rd July 2020	72	1170	448
6	Andhra Pradesh & Telangana	27th July 2020	66	170	68
7	Odisha & Chhattisgarh	29th July 2020	60	434	157
8	Gujarat	31st July 2020	75	1055	422
9	Jharkhand & Bihar	04th August 2020	63	243	109
10	North-East (8 States)	06th August 2020	71	782	267
11	Haryana & Delhi	10th August 2020	77	451	168
12	West Bengal	13th August 2020	48	423	188
13	Rajasthan	17th August 2020	86	891	332
14	Punjab, Jammu & Kashmir and Ladakh	19th August 2020	48	412	185
15	Himachal Pradesh & Uttarakhand	21st August 2020	63	405	155
	Total		1025	9029	3363

Table-32: List of State-wise Registrations/Participants details in the Pan-India Level State level Programmes on PDS-ShodhShuddhi conducted by INFLIBNET Centre

5.   **Online Awareness Programmes on 'Access to e-Resources under N-LIST'**

The INFLIBNET Centre organized the following Online Awareness Programmes on "Access to e-Resources under N-LIST" for all College Members state-wise for increasing effective use of e-resources provided by N-LIST, and a total of 4481 participants attended the programme.

Sl. No.	State / Region	Medium of Instruction	Date	Resource Person	No. of Registrations	No. of Attendees
1	Gujarat	Gujarati	24th July 2020	Dr Kruti Trivedi, Scientist C (LS)	480	324

2	Odisha	Odia	31st July 2020	Mr Dinesh Ranjan Pradhan, Scientist C (LS)	413	260
3	Karnataka	Kannada	10th August 2020	Mrs Hema Cholin, Scientist B (LS)	847	432
4	Tamil Nadu	Tamil	14th August 2020	Mr Raja V., Scientist C (CS)	1274	577
5	Andhra Pradesh & Telangana	Telugu	21st August 2020	Mr K Siva Shankar, Scientist B (LS)	974	290
6	Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand	Hindi /English	28th August 2020	Mr Ashok Kumar Rai, Scientist E (CS)	322	214
7	West Bengal & North-East Region	English	4th September 2020	Mr Ashok Kumar Rai, Scientist E (CS)	1998	890
8	Kerala	English	11th September 2020	Mr Ashok Kumar Rai, Scientist E (CS)	1052	549
9	Maharashtra & Goa	Hindi	15th September 2020	Mrs Roma Yogesh Asnani, STO (LS)	1422	529
10	Rajasthan, Uttar Pradesh, Uttarakhand	Hindi	18th September 2020	Dr Kruti Trivedi, Scientist C (LS)	137	94
11	Haryana, Himachal Pradesh, Delhi, Jammu & Kashmir, Ladakh	Hindi	21st September 2020	Mrs Roma Yogesh Asnani, STO (LS)	2031	322

Table-33: List of Online Awareness Programmes conducted on Access to e-Resources under the N-LIST for all College Members (*Based on Webex Report)

6.   Short-Term Online Webinars

The INFLIBNET Centre organized the following short-term Online Webinars for Universities and colleges. The short-term Online Webinars were announced on the INFLIBNET HRD portal and different Social Media platforms. A total of 4577 participants attended these online webinars.

Sl. No.	Dates	Name of Online Webinar	Resource Persons	No. of Registration	No. of Attendees
1	3rd July 2020	Metadata for ETDs & Shodhganga	Mrs Suboohi S, Scientist B (LS)	51	38
2	17th July 2020	UGC Plagiarism Policies, Penalties and Consequences	Mr Manoj Kumar K, Scientist E (CS)	525	150
3	31st July 2020	e-Learning: Content Creation & Delivery using MOOCs Platform	Mr Abhishek Kumar, Scientist D (CS)	32	32
4	11th August 2020	IR and Cloud Hosting	Mr Yatrik Patel, Scientist E (CS) and Mr Swapnil Patel, Scientist C (CS)	469	148
5	14th August 2020	Importance of Academic identities and VIDWAN	Mr K Siva Shankar, Scientist B (LS)	348	150
6	28th August 2020	Research Information Management System - IRINS	Mr K Siva Shankar, Scientist B (LS)	235	150
7	17th September 2020	Use of Reference Management System and Research Report Writing	Dr Miteshkumar Pandya, Scientist C (LS)	197	78

8	30th September 2020	Data Conversion for SOUL Software	Mr Yatrik Patel, Scientist E (CS) and Mr Divyakant Vaghela, Scientist C (CS)	244	120
9	13th October 2020	Roles & Privileges of University Coordinators in Shodhganga	Mrs Suboohi S, Scientist B (LS)	244	132
10	16th October 2020	Reference Management Tool: Mendeley	Mr Pallab Pradhan, Scientist C (LS)	463	119
11	28th October 2020	Altmetrics for Research Evaluation	Mr Pallab Pradhan, Scientist C (LS)	254	134
12	10th November 2020	Reference Management Tool: Zotero	Mr Pallab Pradhan, Scientist C (LS)	351	81
13	17th November 2020	Research Integrity and Plagiarism Issues for Research Scholars	Mr Manoj Kumar K, Scientist E (CS) and Mrs Suboohi S, Scientist B (LS)	652	102
14	20th November 2020	Usage Statistics for e-Resources and InfiStat Usage Monitoring Portal	Mr Dinesh Ranjan Pradhan, Scientist-C (LS)	244	149
15	24th November 2020	N-LIST: e-Resource to Colleges	Dr Kruti J Trivedi, Scientist-D (LS)	2369	1251
16	4th December 2020	Training Programme on N-LIST College Administration Module	Mrs Roma Yogesh Asnani, STO (LS)		1035

17	19th January 2021	An Overview of Research Ethics & Plagiarism Issues	Mr Manoj Kumar K, Scientist E (CS) and Dr Suboohi S, Scientist B (LS)	580	184
18	10th February 2021	Introduction to ETDs & Shodhganga/Shodhgangotri/Shodh Shuddhi	Mr Manoj Kumar K, Scientist E (CS) and Dr Suboohi S, Scientist B (LS)	418	180
19	11th February 2021	N-LIST College Administration Module	Mrs Roma Asnani, STO (LS)	656	344

Table-34: List of Short-Term Online Webinars conducted by INFLIBNET Centre

7.   INFLIBNET Online Training Programmes/Webinars/Collaborative Webinars

7.1. Two-day Online Faculty Development Programme on 'Managing Online Classes and Research', Aligarh Muslim University, Aligarh, 29th - 30th April, 2020

A Two-day Online Faculty Development Programme on "Managing Online Classes and Research" was organized by the Faculty of Social Sciences, Aligarh Muslim University, Aligarh in collaboration with INFLIBNET Centre, Gandhinagar from 29th - 30th April 2020. Prof Akbar Husain, Dean, Faculty of Social Sciences was convener of the programme. Dr Parvez Mahmood Khan, Director, Computer Centre and Prof. Naushad Ali PM, DLIS coordinated the programme. The programme was presided over by Hon'ble Vice-Chancellor Prof Tariq Mansoor and Prof J P Singh Joorel, Director inaugurated as Chief Guest. Mr Manoj Kumar K, Scientist-E (CS) delivered a lecture online to the participants on 29th April 2020. A total 285 faculty members attended the programme.

7.2. Webinar on 'Shodh Shuddhi: Addressing Plagiarism through URKUND', Dr B R Ambedkar Central Library, Jawaharlal Nehru University, New Delhi, 30th May 2020

The webinar on "Shodh Shuddhi: Addressing Plagiarism through URKUND" was organized by Dr B R Ambedkar Central Library, Jawaharlal Nehru University, New Delhi in collaboration with the INFLIBNET Centre, Gandhinagar and e-Galactic on 30th May 2020. Mr Manoj Kumar K, Scientist-E (CS), INFLIBNET Centre and Ms Prity Rathi, Trainer e-Galactic were the resource persons. Mr Manoj Kumar welcomed the participants on behalf of INFLIBNET Centre and briefed them about the

webinar. He delivered a lecture on Understanding Plagiarism and technical sessions on URKUND Plagiarism Detection Software. More than 500 participants attended the online webinar.

7.3.   Webinar on 'Online Resources for Research and Plagiarism', Ansal University, Gurgaon, 02nd June 2020

The webinar on "Online Resources for Research and Plagiarism" was organized by Ansal University, Gurgaon in collaboration with INFLIBNET Centre, Gandhinagar on 2nd June 2020. Dr Monika Khurana, Associate Professor and PhD Programme Coordinator and Dr R N Malviya, Chief Librarian, Ansal University coordinated the webinar. The webinar was inaugurated by Hon'ble VC, Prof D.N.S. Kumar, Ansal University. Mr Manoj Kumar K, Scientist-E (CS), INFLIBNET Centre was the resource person and he delivered a lecture on the topic 'Online Resources for Research and Plagiarism'. About 1020 participants attended the online webinar.

7.4. Webinar on 'An Overview of Research Ethics & Plagiarism Issues', INFLIBNET Centre, Gandhinagar, 3rd June, 2020

The INFLIBNET Centre conducted a webinar on "An Overview of Research Ethics & Plagiarism Issues" on 3rd June 2020. Mr Manoj Kumar K, Scientist-E (CS), INFLIBNET Centre welcomed the participants on behalf of INFLIBNET Centre and briefed them about the webinar. He delivered a lecture on Research Ethics and Plagiarism Issues. More than 1000 participants attended the webinar.

7.5. Webinar on 'Introduction to ETDs & Shodhganga/Shodhgangotri', INFLIBNET Centre, Gandhinagar, 5th June, 2020

The INFLIBNET Centre conducted a webinar on "Introduction to ETDs & Shodhganga/Shodhgangotri" on 5th June 2020 with live streaming on YouTube. The webinar lecture delivered by Mrs Suboohi Siddiqui, Scientist-B (LS), INFLIBNET Centre. More than 200 participants attended the webinar and more than 600 participants viewed the webinar live on YouTube. The handling and searching with features and functionalities about Shodhganga and Shodhgangotri was discussed.

7.6. Webinar on 'INFED and Cloud Hosting', INFLIBNET Centre, Gandhinagar, 9th June, 2020

The INFLIBNET Centre conducted a webinar on "INFED and Cloud Hosting" on 9th June 2020. Mr Yatrik Patel, Scientist-E (CS), INFLIBNET Centre welcomed the participants on behalf of INFLIBNET Centre and briefed them about the webinar. He gave a detailed presentation of INFED and Cloud hosting services provided by INFLIBNET Centre. Mr Raja V, Scientist-B (CS), INFLIBNET Centre further briefed about INFED and Cloud Hosting with practical demonstration. The participants gave very good feedback for the sessions. A total of 162 participants attended the online webinar. The various queries of participants were resolved by the resource persons after the session.

7.7. Webinar on 'Forthcoming SOUL 3.0: Overview', Rajarshi Shahu Arts, Commerce & Science College, Aurangabad, 11th June 2020

The webinar on "Forthcoming SOUL 3.0: Overview" organized by Rajarshi Shahu Arts, Commerce & Science College, Aurangabad and Shivchhatrapati Arts College, Aurangabad in the collaboration with INFLIBNET Centre, Gandhinagar on 11th June 2020. Dr S V Kuntule, Librarian welcomed the participants and briefed them about the webinar. Dr S B Jadhav, Principal delivered the welcome speech. Dr Dharamraj Veer, Director, Knowledge Resource Centre, Dr Babasaheb Ambedkar Marathwada University, Aurangabad delivered the keynote speech. Mr Yatrik Patel, Scientist-E (CS) and Mr Divyakant Vaghela, Scientist-C (CS) were the resource persons and delivered a lecture on SOUL 3.0 Overview. Dr H S Bidwe, Librarian, Shivchhatrapati Arts College extended the vote of thanks at the end of the Webinar.

7.8. Webinar on 'Introduction to PDS and ShodhShuddhi', INFLIBNET Centre, Gandhinagar, 12th June, 2020

The INFLIBNET Centre conducted a webinar on "Introduction to PDS and ShodhShuddhi" on 12th June 2020 with live streaming on YouTube. Mr Manoj Kumar K, Scientist-E (CS), INFLIBNET Centre welcomed the participants on behalf of INFLIBNET and briefed them about the webinar. He delivered the lecture on the PDS and ShodhShuddhi. More than 180 participants attended the webinar and more than 600 participants viewed it live on YouTube.

7.9. Five-Day online Training Programme on 'Research Methodology and Ethics: Plagiarism Issues, Reference Tools and Altmetrics', INFLIBNET Centre, Gandhinagar on 15th - 19th June, 2020

The INFLIBNET Centre organized an Online Training Programme on "Research Methodology and Ethics: Plagiarism Issues, Reference Tools and Altmetrics" from 15th to 19th June 2020. The Programme was coordinated by Mr Manojkumar K., Scientist-E (CS) and Mrs Suboohi Siddiqui, Scientist-B (LS). The programme was inaugurated by Prof J P Singh Joorel, Director, INFLIBNET Centre.

Various useful topics like Qualitative Academic Writing and Publications by Prof R D Sharma, former Vice-Chancellor, University of Jammu, Jammu, J&K, & Vice-Chancellor, Noida International University, Gautam Budh Nagar, Uttar Pradesh; Introduction to Research Ethics and Academic Honesty & Plagiarism Issues by Mr Manoj Kumar K, Scientist-E(CS); Use of Plagiarism Detection Software and ShodhShuddhi by Ms Suboohi S, Scientist-B (LS); Use of Reference Management Tools: Mendeley, Zotero by Dr Miteshkumar Pandya, Scientist-C (LS); Assessing and Evaluating Research Performance using Bibliometric Indicators by Dr Kruti Trivedi, Scientist-C (LS); Research Methodology and Planning of Research by Prof J P Singh Joorel, Director, INFLIBNET Centre; Statistical Methods for Research & Data Analysis using R by Mr Hitesh Solanki, Scientist-C (CS);

IRINS is web-based Research Information Management (RIM) & An overview of (ORCID) by Mr Kannan P., Deputy Librarian, The Central University of Punjab & Mr K Siva Shankar, Scientist-B (LS) and Altmetrics: An Overview by Mr Pallab Pradhan, Scientist -B (LS), INFLIBNET Centre, were covered in the programme. A total of 101 participants attended the programme.

7.10. National Level Online Faculty Development Programme on 'E-Content Design, Development and Delivery', Kavikulaguru Kalidas Sanskrit University, Ramtek, Nagpur, 18th - 27th June 2020

The Five-day National Level Online Faculty Development Program on "E-Content Design, Development and Delivery" was organized by Kavikulaguru Kalidas Sanskrit University, Ramtek in collaboration with INFLIBNET Centre, Gandhinagar from 18th to 27th June 2020. The main aim of the programme was to share the knowledge of creating, designing, developing and hosting or delivering e-contents through online mode. The program began with the inaugural function chaired by the Hon'ble Vice-Chancellor, Prof. Shrinivasa Varakhedi, KKSU, Ramtek. Prof J P Singh Joorel, Director, INFLIBNET Centre was invited as the programme inaugurator and UGC Vice Chairman, Prof Bhushan Patwardhan was invited as the Chief Guest at the Inaugural Function. IQAC Director, Prof Nanda Puri introduced the program. During the inaugural, LMS Services for the university were also jointly unveiled by Prof Bhushan Patwardhan and Prof J P Singh Joorel. UGC Vice Chairman, Prof Bhushan Patwardhan delivered the keynote address. He focused on today's challenges for the universities and colleges in the teaching-learning process. Prof Shrinivasa Varakhedi delivered the presidential speech for one and all present in the function. Accepting today's challenges in teaching & learning, he said that we are ready with the team to face today's challenges. Today in the Covid-19 pandemic situation, the entire world is to adopt the present challenges. Thus, he also said to everyone to accept the challenges and upcoming modification in the teaching-learning process. IQAC Coordinator, Prof. Kavita Holey extended a vote of thanks at the end of the function. The function was anchored by Dr Parag Joshi, Assistant Professor, KKSU, Ramtek. Mr Abhishek Kumar, Scientist-D (CS), Mr Kimidi Siva Shankar, Scientist-B (LS), INFLIBNET Centre, Mr Mandar Bhanushe, Assistant Professor (Mathematics), Mumbai University, Dr Ganesh Hedge, Adviser, NAAC and Dr Pramod Pabrekar, Senior Consultant, RUSA, Maharashtra, Dr Suhas Pachpande, Amaravati University, Dr Archana Thakran, Amity University, Prof Ajita Deshmukh, Pune, Dr Madhavi Dharankar SNDT Women's University, Dr Sameer Sahasrabuddhe, Director, EMRC Pune, Dr Vishvajit Pendse, Nagpur were the experts of the online Faculty Development Programme.

7.11. Five-Day Online Training Programme on 'Metadata Management and Open Source Discovery System for Libraries', INFLIBNET Centre, Gandhinagar, 22nd - 26th June, 2020

The INFLIBNET Centre organized an Online Training Programme on "Metadata Management and Open Source Discovery System for Libraries" from 22nd to 26th June 2020. The Programme was coordinated by Dr Mitesh Pandya, Scientist-C (LS), Mrs Vaishali Shah, Scientist-C (LS), Mr Dinesh Ranjan Pradhan, Scientist-C (LS) and Mr Hiteshkumar Solanki, Scientist-C (CS).

Different useful topics like From OPAC to Discovery Services and Open Source Discovery Softwares – VuFind by Prof Parthasarathi Mukhopadhyay, HOD, DLISc, University of Kalyani; Understanding Metadata Standards, ISO 2709 Structure, MARC 21, MARCXML and Dublin Core; Fundamentals of Retrospective Conversion; and Data Migration from MARC 21 to Excel and Excel to MARC 21 using MARCEdit by Mrs Vaishali Shah, Scientist-C (LS); Multilingual Metadata Management: Some Insights by Dr Miteshkumar Pandya, Scientist-C (LS); VuFind Installation Demo and Importing MARC Record; and Vufind Basic Layout Customization by Mr Hiteshkumar Solanki, Scientist-C (CS); Understanding Metadata Harvesting and OAI; Harvesting records using VuFind; and Importing different type of records to Vufind and mapping fields by Mr Dinesh Ranjan Pradhan, Scientist-C (LS), INFLIBNET Centre, were covered in the programme. At the end of the online training programme, a quiz test was also conducted via Google Quiz platform. A total of 32 participants attended the programme.

7.12. Webinar on 'Plagiarism Issues, Policies and Detection Tools', Ram Lal Anand College, University of Delhi, Delhi, 25th June, 2020

A webinar on 'Plagiarism Issues, Policies and Detection Tools' was organized by Ram Lal Anand College, University of Delhi, Delhi in collaboration with INFLIBNET Centre, Gandhinagar on 25th June 2020. Prof J P Singh Joorel, Director, INFLIBNET Centre inaugurated the programme. Mr Manoj Kumar, Scientist-E (CS) welcomed the participants on behalf of INFLIBNET Centre and briefed them about the webinar. He delivered a lecture as Resource Person on the topic 'Plagiarism Issues, Policies and Detection Tools' and a total of 230 participants attended the webinar online and simultaneously through YouTube Live.

7.13. Webinar on 'IR and Cloud Hosting', INFLIBNET Centre, Gandhinagar, 26th June, 2020

The INFLIBNET Centre conducted a webinar on "IR and Cloud Hosting" on 26th June 2020. Mr Yatrik Patel, Scientist-E (CS), INFLIBNET Centre welcomed the participants on behalf of the Centre and briefed them about the webinar. He gave a brief about the requirement of IR in the library and its benefits. He also gave an introduction to Cloud hosting services provided by INFLIBNET. Mr Swapnil Patel, Scientist-C (CS), INFLIBNET Centre provided a brief introduction of DSpace software with a practical demonstration on Creating Community Collection, entering metadata with full-text and workflow management steps. The various queries of participants resolved by the resource persons after the session. The participants gave very good feedback about the session. A total of 433 participants attended the webinar.

7.14. Webinar on 'Plagiarism Detection Software (PDS) – ShodhShuddhi', Tezpur University, Tezpur, 27th June, 2020

A webinar on 'Plagiarism Detection Software (PDS) – ShodhShuddhi' was organized by Tezpur University, Tezpur in the collaboration with INFLIBNET Centre, Gandhinagar on 27th June 2020. Mr Manoj Kumar, Scientist-E (CS) welcomed the participants on behalf of INFLIBNET Centre and

briefed them about the webinar. He delivered a lecture as Resource Person on the topic 'Plagiarism Detection Software (PDS) - ShodhShuddhi' and a total of 291 participants attended and simultaneously 400 participants on YouTube Live.

7.15. Webinar on 'Libraries on Cloud', INFLIBNET Centre, Gandhinagar, 30th June, 2020

The INFLIBNET Centre conducted a webinar on "Libraries on Cloud" on 30th June. Mr Raja V, Scientist-B (CS), INFLIBNET Centre welcomed the participants on behalf of the Centre and briefed them about the webinar. He also delivered a lecture on Libraries on Cloud with practical demonstration. The participants gave very good feedback about the session. A total of 110 participants attended the webinar.

7.16. Webinar on "Upcoming SOUL 3.0 Overview", Indian Institute of Advanced Study (IIAS), Shimla, 30th June, 2020

The webinar on 'Upcoming SOUL 3.0 Overview' was organized by the Indian Institute of Advanced Study (IIAS), Shimla and Himachal Pradesh Library Association in collaboration with INFLIBNET Centre, Gandhinagar on 30th June 2020. Dr Suresh Kumar Chauhan, Dy. Librarian, JUIT, Waknaghat and Secretary, HPLA coordinated the webinar. Mr Prem Chand, Librarian, IIAS and Moderator of the Webinar, welcomed the participants and briefed them about the webinar. Mr Yatrik Patel, Scientist-E (CS) and Mr Divyakant Vaghela, Scientist-C (CS) were the resource persons and delivered lectures on SOUL 3.0 Overview. Mr Lambodara Parabhoi, Professional Assistant, IIAS extended the vote of thanks at the end of the webinar.

7.17. Online Advanced Training Programme on Bibliometrics and Research Output Analysis, 20th - 24th July, 2020

The INFLIBNET Centre organized an Online Advanced Training Programme on "Bibliometric and Research Output Analysis" from 20th to 24th July 2020. A total of 95 participants were registered for the programme. The training programme provided a sound overview of bibliometric methods, bibliometric data sources, data processing and performance indicators related to bibliometric analysis and mapping. It also provided awareness of the most commonly used databases, i.e. Web of Science and Scopus. Special emphasis was given to advanced network analysis, interpretation and visualization of data. The programme also introduced R language for the analysis of various Bibliometric indicators, Biblioshiny, GUI for Bibliometric Analysis and VOS Viewer tool.

All the lectures in the training programme were taken by the Scientists of INFLIBNET Centre as follows: Research Impact Metrics: Calculation & Context, Advanced Search Techniques of Web of Science and Scopus, and Advanced Citation Analysis and Visualization using VOS Viewer (Demonstration) by Dr Kruti Trivedi, Scientist-C (LS); Graph Theory and Fundamentals for Network Analysis and Visualization, Bibliometrix R Package: Descriptive Analysis (Demonstration),

Bibliometrix R Package: Network Analysis and Visualization (Demonstration), and Biblioshiny: An R GUI for Bibliometric Analysis (Demonstration) by Mr Hitesh Solanki, Scientist-C (CS); Beyond Citation Analysis: Altmetrics by Mr Pallab Pradhan, Scientist-B (LS); Bibliometric Indicators and Rankings of University Research Performance by Mr Abhishek Kumar, Scientist-D (CS); and Academic Identity with reference to ORCID ID and IRINS by Mr Siva Sankar, Scientist-B (LS), INFLIBNET Centre. The online programme was moderated by Dr Kruti Trivedi and Mr Hitesh Solanki. On completion of the online training programme, lecture-wise feedback forms were distributed among participants to submit their feedback.

7.18.   Three-day Online Training Programme on e-Learning: Content Creation & Hosting on LMS, 26th - 28th August, 2020

The INFLIBNET Centre organized an Online Training Programme on "e-Learning: Content Creation & Hosting on LMS" from 26th to 28th August 2020. A total of 32 participants attended the programme. The programme provided a sound overview on the topics like e-learning, Learning Management System (LMS), MOOCs, SWAYAM platform along with hands-on practice to the participants.

The topics like Introduction to e-Learning, Component. LMS and MOOCs, LMS and its features (Hands-On: Installation), LMS: Role as an Administrator (Hands-on after brief theory), LMS: Role as Teacher / Course Creator (Hands-on), LMS: Role as a Student (Hands-on after brief theory), and MOOCs SWAYAM by Dr. Abhishek Kumar, Scientist-D (CS), INFLIBNET Centre, were covered in the programme. The online programme was moderated by Ms Shivani Joshi & Mr Brijesh Kothadiya, Project Staff and also they supported to conduct practical.

7.19.   Five-day Online National Workshop on Research Data and Statistical Analysis using R Programming, 14th - 18th September, 2020

A Five-day Online National Workshop on "Research Data and Statistical Analysis using R Programming" was organized by INFLIBNET Centre from 14th to 18th September 2020. Mr Hitesh Solanki, Mr Divyakant Vaghela, Scientist-C (CS) and Mr Yatrik Patel, Scientist-E (CS) coordinated the program. This workshop was conducted with an aim to provide knowledge on R Programming 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 data scientists and researchers.

The topics like Introduction to R Programming & Data Types in R, Data Structure – I (Vector, Array, Matrix), and Data Structure – II (Data Frames, Lists) by Mr Divyakant Vaghela, Scientist-C (CS); Data Handling in R (Importing TXT, CSV, MS Excel) by Mr Yatrik Patel, Scientist-E (CS); Built-in Functions with R (Summary Measures) and Data Visualization using R (Bar diagram, Pie Diagram, Histogram, Box Plot) by Mr Hitesh Solanki, Scientist-C (CS), INFLIBNET Centre; Hypothesis Testing-I & II

(Parametric Test) by Dr R. D. Chaudhari, Associate Professor, M G Science Institute, Ahmedabad; and Statistical Analysis using R (Analysis of Variance) and Statistical Analysis using R (Non-Parametric Test) by Dr Dharmesh Raykundaliya, Assistant Professor, Sardar Patel University, Vallabh Vidyanagar, were covered during the training programme. At the end of the workshop, an online quiz was conducted, then e-certificates were issued to all attendees. A total of 30 participants attended the workshop.

7.20. Five-day Online National Workshop on "Creation and Management of Digital Library using Open Source Software", INFLIBNET Centre, Gandhinagar, 05th - 09th October, 2020

The INFLIBNET Centre organized an Online National Workshop on "Creation and Management of Digital Library using Open Source Software" from 05th to 9th October 2020. Mr Yatrik Patel, Scientist-E (CS) and Mr Swapnil Patel, Scientist-C (CS), INFLIBNET Centre coordinated the Workshop. Mr Yatrik Patel welcomed the participants on behalf of the Centre and briefed them about the Workshop. Mr Swapni Patel, Scientist C (CS), Mr Vijay Shrimali, STO (CS) and Mr Kalp Patel, Project Assistant (CS) were the resource persons for practical sessions. A total of 34 participants attended the workshop. The various queries of participants were resolved by the resource persons after the sessions.

The topics like Introduction to Open Source Software and Linux Basic Commands (Theory) by Mr Raja V, Scientist-C (CS); Institutional Repositories using DSpace (Theory) by Mr Yatrik Patel, Scientist-E (CS); Metadata Standards for Digital Collections (Theory) by Dr H G Hosamani, Scientist-D (LS); DSpace Installation, Configuration and Customization (Theory and Demonstration) by Mr Swapnil Patel, Scientist-C (CS); and DSpace Administration, Workflow Submission, Backup and Import-Export (Theory and Demonstration) by Mr Vijay Shrimali, STO (CS), INFLIBNET Centre, were covered in the workshop.

7.21. Five-day Faculty Development Programme (FDP) on Cloud Technology, INFLIBNET Centre, Gandhinagar, 9th - 13th November, 2020

A Five-day Faculty Develop Program (FDP) on "Cloud Technology" was organized by INFLIBNET Centre, Gandhinagar in Collaboration with ATAL (AICTE Teaching and Learning Academy) during 9th - 13th November 2020. Mr Raja V, Scientist-C (CS), INFLIBNET Centre coordinated the programme. Dr Ravindra Kumar Soni, Director and Regional Officer briefed about the ATAL Academy. Mr Manoj Kumar K, Scientist-E (CS), INFLIBNET Centre briefed about INFLIBNET Centre. Mr Mudit Kumar Singh, Director General, Chhattisgarh Council of Science and Technology Raipur was the Chief Guest of the programme and delivered the address. Dr B H V Pai, Joint Director, Manipal Institute of Technology, Dr P S Sathidevi, Director In Charge, National Institute of Technology Calicut, Dr Vinod M. Kapse, Director, Noida Institute of Engineering and Technology, Prof. P Seshu, Director, Indian Institute of Technology Dharwad, Prof Rajiv Kumar, Member Secretary and All India Council for Technical Education were the guests of the programme. Dr Amit Vishwasarao Salunkhe, Regional

Officer, All India Council for Technical Education, Hyderabad extended the vote of thanks at the end of the inaugural session. A total of 93 participants attended the programme.

The topics like Introduction to Cloud Computing and Cloud Computing Architecture by Mr Yatrik Patel, Scientist-E (CS); Working with Major Cloud Service Provider by Dr Abhishek Kumar, Scientist-D (CS); Understanding the Benefits and Future of cloud computing by Mr Dharmesh Shah, STO (CS); Understanding the Components and Infrastructure of the cloud by Mr Gaurav Prakash, Scientist-C (CS); Assessing Security Risks, Setting up on SSO (Single Sign-On) Systems using shibboleth on Cloud, and How to register as an education institute with AWS and Azure educate by   Mr Raja V, Scientist-C (CS), INFLIBNET Centre; Infusing AI into all your apps Introduction to Bigdata by Ms Deepthi Anantharam, Microsoft – Azure; Introduction to IaaS, SaaS, PaaS by Mr Ajay Kumar Barun, Microsoft – Azure; Cloud Management and DevOps by Mr Rishabh Gaur, Microsoft – Azure; Introduction to Cloud Storage by Mr Rishi Sharma, Microsoft – Azure; Security Management in Cloud by Mr Ameen Uddin, Microsoft – Azure; Public Cloud Demonstration: Microsoft Azure by Mr Prajyot Saran & Mr Aurun Pandey, Microsoft – Azure; Data & Service Management in Cloud Computing by   Mr Ankur Mittal, Microsoft – Azure; Setting up of virtual Classroom over cloud - Demonstration by Mr Thiruvikram Rao, CEO, Platifi; and Wellness (Yoga and Meditation) by Prof Rajan Salalia, SKUAST – Jammu, were covered in the programme.

7.22.   Three-day Online Advanced Training Programme on Shodhganga and Plagiarism Issues, INFLIBNET Centre, Gandhinagar, 25th - 27th November, 2020

The INFLIBNET Centre organized an Online Advanced Training Programme on "Shodhganga and Plagiarism Issues" from 25th - 27th November 2020. The Programme was coordinated by Mr Manojkumar K., Scientist-E (CS) and Mrs Suboohi Siddiqui, Scientist-B (LS). Mr Manojkumar K welcomed the participants on behalf of the Centre and briefed them about the programme. A total of 94 participants attended the programme.

The topics like An Overview of INFLIBNET activities with a focus on IRINS by Mr Kannan P, Scientist-E (LS); Introduction to Research Ethics, Academic Honesty & Plagiarism Issues by Mr Manoj Kumar K, Scientist-E (CS), Introduction to DSpace and Building IR by Mr Swapnil Patel, Scientist-C (CS); Introduction to Shodhganga/Shodhgangotri/ShodhShuddhi, Role of University Coordinators/Theses Submission in Shodhganga with Metadata for ETDs, and Use of Plagiarism Detection Software and online tools for Plagiarism by Mrs Suboohi Siddique, Scientist-B (LS); and Hands-On Session for URKUND Software by M/s URKUND/e-Galactic Team, were covered in the programme.

7.23.   Three-day Online Capacity Building Program for ICSSR, New Delhi Staff on ICSSR Data Service, INFLIBNET Centre, Gandhinagar, 15th - 17th December 2020

The Three-day Online Capacity Building Programme on "ICSSR Data Service" was conducted by INFLIBNET Centre, Gandhinagar for the staff from ICSSR, New Delhi from 15th - 17th December 2020.

The training was organized as per the request received from ICSSR to impart the technical expertise for its staff in the complete management of ICSSR Data Service. The main objective behind the programme was to get the staff to learn the essential ins and outs of managing the data service. Along with that, it is needed to understand what to focus on when managing the data sets, especially the process involved in refining the data, hosting the data and organizing the data etc. Prof J P Singh Joorel, the Director, INFLIBNET Centre gave the inaugural speech. Prof Joorel expressed his confidence in the imparting of training skills by the scientists of INFLIBNET Centre as well the learning capabilities by the participants on data hosting. He applauded the efforts of ICSSR in establishing the Data Service through INFLIBNET Centre which is most useful for the scholars. While wishing the best for the prospects of ICSSR Data Service in future, he assured to assist in future as and when required in managing the data service. Sh Yatrik Patel, Scientist-E (CS), Sh Divyakant Vaghela, Scientist-C (CS), Sh Hitesh Solanki, Scientist-C (CS), and Dr Miteshkumar Pandya, Scientist-C (LS) were the resource persons for the programme. About 06 delegates/participants from ICSSR, New Delhi attended the programme.

7.24. Three-day Online Training Programme on "Research Evaluation and Research Support Tools", INFLIBNET Centre, Gandhinagar, 27th – 29th January 2021

The INFLIBNET Centre organized an Online Training Programme on "Research Evaluation and Research Support Tools" from 27th to 29th January 2021. Mr Pallab Pradhan, Scientist-C (LS), INFLIBNET Centre coordinated the training programme. On this occasion, Mr Pradhan welcomed the participants on behalf of the Centre and briefed them about the Programme. A total of 30 participants attended the Programme. The participants gave very good feedback about all the sessions.

The useful topics like Introduction to Research Ethics and Plagiarism, Urkund Demo by Dr Suboohi Siddiqui, Scientist-B (LS); Bibliometrics Indicators for Assessing Research, Scopus Demo by Dr Kruti J Trivedi, Scientist-D (LS); Social Media and Research Impact, Altmetrics, and Reference Management Tool for Academic Writing, Mendeley by Mr Pallab Pradhan, Scientist-C (LS); MOOCs and Open Educational Resources for Scholars by Dr Abhishek Kumar, Scientist-D (CS); and Academic Identity and Research Profile, ORCID & IRINS by Mr Kannan P, Scientist-E (LS); were covered in the programme.

7.25. Five-day Online Advanced Training Programme on "Bibliometric and Research Output Analysis", INFLIBNET Centre, Gandhinagar, 1st - 5th February 2021

The INFLIBNET Centre organized an Online Advanced Training Programme on "Bibliometric and Research Output Analysis" from 01st to 05th February 2021 and 100 participants attended the training programme. The training programme provided a sound overview of bibliometric methods, bibliometric data sources, data processing and performance indicators related to bibliometric analysis and mapping. It also provided awareness of the most commonly used databases, i.e. Web of

Science and Scopus. Special emphasis was given to advanced network analysis, interpretation and visualization of data, including the theoretical sessions on various tools such as VOS Viewer, etc. The programme also introduced R language, for the analysis of various bibliometric indicators, and Biblioshiny, GUI for bibliometric analysis.

The programme was moderated by Dr Kruti Trivedi, Scientist-D (LS) and Mr Hitesh Solanki, Scientist-C (CS), INFLIBNET Centre. The useful lectures like Research Metrics by Prof IK Ravichandra Rao; Research Impact Metrics: Calculation & Context, Advanced Search Techniques of Web of Science, Advanced Search Techniques of Scopus, and Advanced Citation Analysis and Visualization using VOS Viewer (Demonstration) by Dr Kruti Trivedi, Scientist-D (LS); Graph Theory and Fundamentals for Network Analysis and Visualization, Bibliometrix R Package: Descriptive Analysis, Network Analysis and Visualization (Demonstration), and Biblioshiny: An R GUI for Bibliometric Analysis (Demonstration) by Mr Hitesh Solanki, Scientist-C (CS); Bibliometric Indicators and Rankings of University Research Performance by delivered by Dr Abhishek Kumar, Scientist-D (CS); and Beyond Citation Analysis: Altmetrics by Mr Pallab Pradhan, Scientist-C (LS), were delivered in the programme.

7.26.   Online Training Programme on Exploring EBSCO e-resources (HW Wilson) for Learning and Research available through N-LIST, INFLIBNET Centre, 8th March 2021

The Online Training Programme on "Exploring EBSCO e-resources (HW Wilson) for Learning and Research available through N-LIST" was conducted by the INFLIBNET Centre on 8th March 2021 with a detailed demonstration of the EBSCO platform by Mr G K Upadhyaya from EBSCO. Nearly 350 participants attended the online training programme.

Part - IV

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

1.   Central Facilities

Fig. 76: INFLIBNET Centre's Library

The INFLIBNET Centre has a specialized library having a unique collection of library and information science, computer science, communication and information technology. The library is fully computerized using newly launched SOUL 3.0 integrated library management software. The library has around 2,300 documents including books, proceedings, journal Bound Volumes and magazines.

Fig. 77: Periodicals Section

The collection of the library is available online through the web OPAC at https://www.inflibnet.ac.in/library/.

SOUL 3.0 OPAC is the interface/mirror for the resources stocked in the library, which will fulfil all the information retrieval requirements at the Users end from the library. It has options from a simple search to advanced search options like the combination of using Boolean operators between all the entry elements. SOUL 3.0 has the facility to approach the database with three different approaches i.e. Simple Search (with fixed combinations of common fields), Boolean Search (Natural Language nomenclature but with AND, OR & NOT operators to join the fields); and Advance Boolean (Combination of using Boolean operators between any of the field tags from MARC records). OPAC also has the facilities to generate bibliographies. The online status of any item stocked, along with its location is available to save the time of the user. The retrieved search results can be exported in MARCXML format. The attachment done in the catalogue module can be viewed directly through "View Attachment". Member OPAC allows Library members to see his/her status. The member can see their privileges, items issued/reserved under his/her membership.
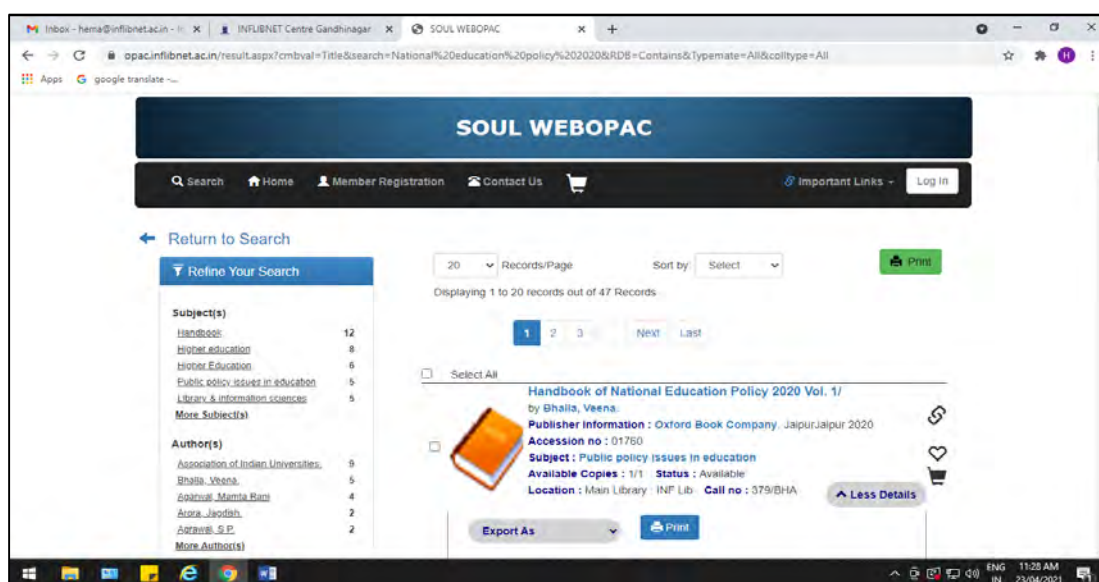
Fig. 78: SOUL WEBOPAC

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.

1.1.1. Library Services

The library provides the following services to its users:

a) Reference Service
b) Document Delivery Service
c) Current Awareness Service
d) Inter-Library Loan Service
e) Electronic Information Service
f) Reprographic Service

1.1.2. Access to Online Databases

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

1.2. IR @INFLIBNET (https://ir.inflibnet.ac.in)

The Centre has established an institutional repository called IR@INFLBNET using DSpace, open-source software accessible at https://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 1,859 full-text articles.

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 2020-2021 with a total no. of 223 PCs, 56 laptops and 33 servers for scientists, project staff, walk-in User's Facility, Training Laboratories, etc. 33 servers include servers that are installed at the Data Centre of INFLIBNET Centre either as staging servers for hosting services such as Web services, INFLIBNET Website, Shodhganga, 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.

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 additional computing and network infrastructure:

Sl. No	Computer and Network Equipment	Quantity
1	Server	4
2	NAS Box	1
3	Desktop	12
4	Laptops	7

Table-35: Computing and Network Infrastructure Acquired During 2020 – 2021

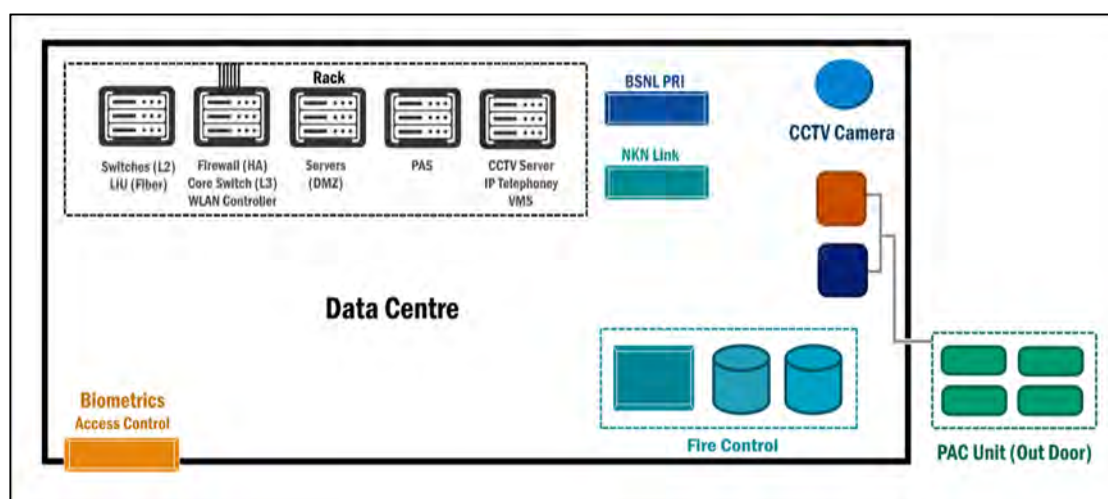Fig. 72 depicts the thematic representation of the Data Centre at the INFLIBNET Centre, Gandhinagar.

Fig. 79: Thematic Representation of Data Centre at INFLIBNET Centre

The Centre also uses the services of BAADAL Cloud maintained by IIT Delhi as an NMEICT initiative of the Ministry of Education, Government of India.

2.2. Campus-LAN and Internet Connectivity

The Centre provides most of its services through the Internet on a 24x7x365 basis. The network infrastructure is one of the most important components providing efficient and effective services to 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 150-250 Mbps, but it can be increased on-demand based on bandwidth-intensive applications up to 1 Gbps. INFLIBNET Centre has two Internet connections, i.e. one from NKN and the 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 the Centre is

connected through Optical Fibre to Gandhinagar node of NKN on ring topology. During the period of Report NKN provides the second physical path for the 1Gbps line in case of physical damage to any single line. 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. 80. A dedicated firewall appliance is purchased with a subscription to anti-virus, anti-spam and intrusion detection systems. 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 average, the INFLIBNET Website and the national union databases attract more than 15,000 visitors per month.
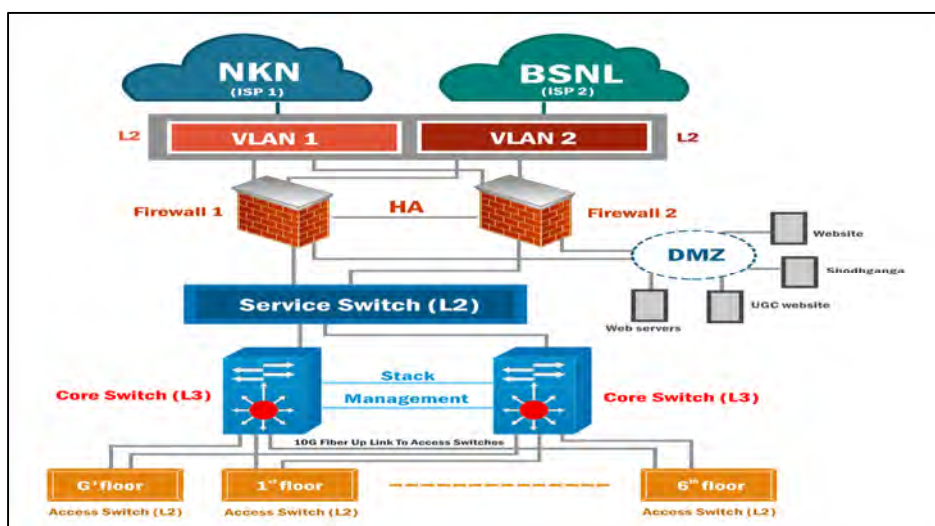

Fig. 80: Thematical Diagram Showing L-2 and L-3 Switches Connected to NKN /BSNL, Firewall and Other Computing Infrastructure in INFLIBNET

During the year under report, 2 firewalls in HA mode were procured and commissioned for enhancing IT Security and the network service 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 the 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 and Heating, Ventilation and Air Conditioning (HVAC) systems, servers, etc. The INFLIBNET Centre uses HP BladeSystem C 3000 Enclosure for hosting Web Services, INFLIBNET website, Shodhganga, N-LIST, InfoPort, e-PG Pathshala, IndCat, DNS server, Intranet server, etc. IBM Bladecenter S chassis is used for Web

colocation services at BSNL, which host mirror sites of services such as the UGC website, N-LIST Proxy Server, Online UGC's e-SARTS and other important services.

The 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 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 BMS Solutions. Smart Visitor Management Software is used for storing data and generating a gate-pass for visitors.

About 26 CCTV cameras from M/s. Honeywell are being used for the Surveillance System by categorizing it into three types. PTZ security cameras allow controlling the Pan, tilt and zoom operations of the camera lens remotely or through programming. The 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 the 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 members 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 the office.

A dedicated ISDN PRI line is used for Video Conferencing Facility with high definition resolution camera with a codec, multipoint control unit and HD LCD/LED TV for display. The Public Addressing System (PAS) is in place for playing soothing music in the background in the premises of a building to give a pleasant ambience for working professionals. The entire building is divided into various zones and a zone-wise announcement is also possible with centralized control. The boardroom is equipped with facilities that can be controlled with a wireless touchpad/iPad. The auditorium with 380 seating capacity is well equipped with a 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 a Wi-Fi hotspot including guesthouses, residences and the Plaza area.

2.4. Training Laboratories

The Centre conducts training programmes including SOUL Training Programmes regularly. One of the two Training Laboratories is equipped with 42 PCs with projection systems 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 3,700+ installations across the country. SOUL Support Cell is equipped with 5 PCs, a scanner and a printer. A facility has been created to provide support to the users of the SOUL Software with a 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 e-ShodhSindhu. The license agreements signed with the publishers of e-resources providers 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 four 40 kVA each UPS for dedicated power supply to Data Centre and network equipment installed at different locations of the Centre.

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. The number of students who availed of the internship at INFLIBNET and their institutional affiliations are given below in Table-36.

Sl. No.	Name of the Institute	Degree	No. of Students
1	Ganpat University, Kherva	B.Tech (IT)	01
2	Chaudhari Technical Institute, Gandhinagar	MCA	02
3	VIT University, Bhopal	MCA	01
4	M S University of Baroda, Vadodara	M.Sc. (IT)	02

Table-36: No. of Students who Availed Internship at INFLIBNET and their Institutional Affiliation

4. Other Notable Activities and Events

4.1. Independence Day Celebration

The INFLIBNET Centre celebrated the 74th Independence Day on 15th August 2020. The National Flag was hoisted by Prof J P Singh Joorel, Director, INFLIBNET Centre. On this occasion, Prof Joorel addressed the staff members and their family members.

Fig. 81: Independence Day Celebration at INFLIBNET Centre

4.2. Republic Day Celebration

The INFLIBNET Centre celebrated 72nd Republic Day on 26th January 2021 at INFLIBNET Centre, Infocity, Gandhinagar. The National Flag was unfurled by Prof J P Singh Joorel, Director, INFLIBNET Centre, which was followed by singing the National Anthem by the present gatherings. He greeted all the staff members and their families and addressed them on this occasion.

Fig. 82: Republic Day Celebration at INFLIBNET Centre

4.3. Lecture on Protection of Sexual Harassment at Workplace: A Legal Perspective, INFLIBNET Centre, Gandhinagar, 9th March 2021

Fig. 83: Dr Mayuri H. Pandya and Prof J P Singh Joorel during the Lecture on Sexual Harassment of Woman at Workplace organized at INFLIBNET Centre

On the occasion of Women's day, a special lecture on "Protection of Sexual Harassment at Workplace: A legal perspective" was organized at INFLIBNET Centre on 9th March 2021. Dr Mayuri H. Pandya, Director, GLS Law College, Ahmedabad was invited to deliver the lecture.   The main objective was to spread awareness about the sexual harassment at workplace and make all the staff aware about the laws, acts, implications, penalties, punishments which are related to sexual harassment of woman at workplace. Dr Mayuri H. Pandya highlighted the issues and aspects related to women harassment at work. She has given many examples of 'Myths and Facts' regarding sexual harassment towards women in society and discussed laws for the welfare of women in India. Prof J P Singh Joorel, Director INFLIBNET Centre, and staff members of the INFLIBNET Centre were present in the programme. Dr Kruti Trivedi, Presiding Officer, Scientist D (LS) coordinated the programme with other Committee members. About 160 participants attended the programme.

Fig. 84: INFLIBNET Staff during the Session

5.   Visitors

The following eminent academicians and personalities visited INFLIBNET Centre during the period under report:

a. Prof Atul Khosla, Vice Chancellor, Shoolini University, Solan, Himachal Pradesh.
b. Prof Himanshu Pandya, Vice Chancellor, Gujarat University, Ahmedabad, Gujarat.
c. Prof Ajit K Khare, Director, National Institute of Fashion Technology (NIFT), Gandhinagar, Gujarat.
d. Prof Chetan Trivedi, Vice Chancellor, Bhakta Kavi Narsinh Mehta University, Junagadh, Gujarat.
e. Prof Rama Shanker Dubey, Vice Chancellor, Central University of Gujarat, Gandhinagar, Gujarat.
f. Prof Dinesh K Gupta, Department of Library & Information Science, Kurukshetra University, Kurukshetra, Haryana.
g. Prof Aditya Tripathi, Department of Library & Information Science, Banaras Hindu University (BHU), Varanasi, Uttar Pradesh.
h. Prof Mahendra Pratap Singh, Department of Library & Information Science, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh.
i. Dr. Nabi Hasan, Librarian, Indian Institute of Technology (IIT) Delhi, New Delhi.
j. Prof Dinesh Kumar, J.C. Bose University of Science & Technology, YMCA, Faridabad, Uttar Pradesh.
k. Prof Hemant Sharma, Department of Library & Information Science, Jiwaji University, Gwalior, Madhya Pradesh.
l. Prof Vaishali Praful Gudadhe, Department of Library & Information Science, Sant Gadge Baba Amravati University, Amravati, Maharashtra.
m. Prof Savita Gandhi, Department of Computer Science, Gujarat University, Ahmedabad, Gujarat.
n. Prof Himanshu Patel, Registrar, Indian Institute of Teacher Education (IITE), Gandhinagar, Gujarat.

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 https://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 the Centre. The detailed information about RTI and responsible officers appointed for the same are available on the Centre's website at https://www.inflibnet.ac.in.

7.   Financial Status

The Audited Annual Accounts of INFLIBNET Centre for the financial year 2020-21 is given in **Appendix X**.

Appendices

Council
Ex. Officio Members

President
Prof D P Singh
Hon'ble Chairman
University Grants Commission, New Delhi

Members	
Prof Bhushan Patwardhan	**Prof Anil D Sahasrabudhe**
Vice-Chairman	Chairman
University Grants Commission, New Delhi	All India Council for Technical Education, New Delhi
(From 01.04.2020 to 04.03.2021)	
Dr Shekhar C Mande	**Prof Bhushan Patwardhan**
Director-General	I/C Chairperson
CSIR, New Delhi	ICSSR, New Delhi
	(From 01.04.2020 to 04.03.2021)
1. **Mr Padma Lochan Sahu**	**Prof J P Singh Joorel**
Joint Secretary	Director
Ministry of Culture, Govt. of India, New Delhi	INFLIBNET Centre, Gandhinagar
(From 01.04.2020 to 23.03. 2021)	**(Member Secretary)**
2. **Prof Ajay P Singh**	
Director-General	
National Library of India, Kolkata	
Director-General	
RRRLF, Ministry of Culture, Govt. of India, New Delhi	
(From 24.03.2021 to 31.03.2021)	

Nominated Members	
Prof Vinay Kumar Pathak	**Prof Ajay P Singh**
Vice-Chancellor	Director-General
Dr A P J Abdul Kalam Technical University, Lucknow	RRRLF, Ministry of Culture, Govt. of India
(Vice-Chancellor of a University)	**(An Eminent Library Scientist)**
1. **Prof M P Poonia**	
Vice-Chairman	
All India Council for Technical Education, New Delhi	
(Expert in Information Technology)	
(From 01.04.2020 to 18.05.2020)	
2. **Prof Lalit Kumar Awasthi,**	
Director	
National Institute of Technology Jalandhar	
(Expert in Information Technology)	
(From 19.05.2020 to 31.03.2021)	

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

Governing Board

Chairman
Prof Yogesh Singh   Hon'ble Vice-Chancellor   Delhi Technological University, Delhi

Ex. Officio Members	
Dr Bhushan Patwardhan Vice-Chairman University Grants Commission, New Delhi **(From 01.04.2020 to 04.03. 2021)**	**Prof Rajnish Jain** Secretary University Grants Commission, New Delhi
Prof Rama Shankar Dubey Vice-Chancellor Central University of Gujarat, Gandhinagar **(Vice-Chancellor of a Local University)**	1. **Dr A P Mittal** All India Council for Technical Education, New Delhi **(Nominee of AICTE)** **(From 01.04.2020 to 17.08.2020)** 2. **Dr. Neeraj Saxena, Advisor-II** Member Secretary All India Council for Technical Education, New Delhi **(Nominee of AICTE)** **(From 18.08.2020 to 04.03. 2021)**
Prof J P Singh Joorel Director INFLIBNET Centre, Gandhinagar **(Member Secretary)**	

Nominated Members	
1. **Prof R C Kuhad** Vice-Chancellor Central University of Haryana, Mahendragarh **(Vice Chancellor of a Central University)** **(From 01.04. 2020 to 19.05.2020)** 2. **Prof E Suresh Kumar** Vice Chancellor The English and Foreign Languages University, Hyderabad **(Vice Chancellor of a Central University)** **(From 20.05.2020 to 31.03.2021)**	1. **Prof S K Singh** Vice Chancellor Lalit Narayan Mithila University, Kameshwaranagar, Darbhanga, Bihar **(Vice Chancellor of a State University)** **(From 01.04. 2020 to 29.07.2020)** 2. **Prof Rajesh Singh** Vice Chancellor Purnea University, Purnia, Bihar **(Vice Chancellor of a State University)** **(From 30.07.2020 to 31.03.2021)**

1. **Prof Anurag Kumar** Director Indian Institute of Science, Bengaluru 2. **Prof Shalini Bharat** Director Tata Institute of Social Sciences, Mumbai **(Vice-Chancellor of a Deemed University)** **(From 19.05.2020 to 31.03.2021)**	**Dr R K Chadha** Former Additional Secretary Lok Sabha Parliament House, New Delhi **(One eminent Librarian)**
Prof Kamlesh Joshipura Former Vice-Chancellor Saurashtra University, Rajkot, Gujarat **(Expert in the Field of Communication)**	**Prof Pratosh Bansal** Professor of IT Institute of Engineering and Technology, Devi Ahilya Vishwavidyalaya, Indore **(Expert in the Field of Computers)**
Dr B K Tripathi Director An IUC for Teacher Education, Banaras Hindu University, Varanasi **(One of the Directors of IUCs)**	**Representative of Ministry of Education** **(e-ShodhSindhu)**

Finance Committee

Ex. Officio Members

Chairman
Prof Yogesh Singh   Vice-Chancellor   Delhi Technological University, Delhi

Prof Rajnish Jain Secretary University Grants Commission, New Delhi	**Sh P K Thakur** Financial Advisor University Grants Commission, New Delhi

Prof Kamlesh Joshipura Former Vice-Chancellor Saurashtra University Rajkot, Gujarat	**Dr (Mrs) Manju Singh** Joint Secretary (IUC) Bureau Head of the Plan Budget Section, UGC, New Delhi	**Prof J P Singh Joorel** Director INFLIBNET Centre, Gandhinagar

Mr Ashok Kumar Rai Member Scientist-E (CS) INFLIBNET Centre, Gandhinagar	**Mr Harish Chandra** Non-Member Secretary Administrative Officer (P&A) INFLIBNET Centre, Gandhinagar

Building Committee

Ex. Officio Members

Chairman	
Prof Himanshu Pandya Vice-Chancellor Gujarat University, Ahmedabad	
Prof R C Kuhad Vice-Chancellor Central University of Haryana Jant-Pali, Mahendragarh	**Prof J P Singh Joorel** Director INFLIBNET Centre, Gandhinagar
Prof S C Sharma Director NAAC, Bengaluru	**Prof Asutosh Trivedi** Dean, IRD Delhi Technological University, Delhi
Mr A K Jain Assistant Engineer CPWD, Gandhinagar	**Prof Utpal Kumar Sharma** Director Institute of Architecture, Nirma Univerity, Ahmedabad
Mr N K Ojha University Engineer The M S Univerity of Baroda, Vadodara	**Mr Rajeev Kathpalia** Vastu Shilpa Consultants, Ahmedabad
Dr Nilesh Shah Advocate, Vadodara	**Mr Manoj Kumar K** Scientist-E (CS) INFLIBNET Centre, Gandhinagar
Mr Harish Chandra Administrative Officer (P&A) INFLIBNET Centre, Gandhinagar	

Technical, Administrative and Supporting Staff

Scientific and Technical Staff		
Sl.No.	Name of the employee	Designation
1	Prof J P Singh Joorel	Director
2	Mr Manoj Kumar K.	Scientist-E (CS)
3	Mr Ashok Kumar Rai	Scientist-E (CS)
4	Mr Y. R. Patel	Scientist-E (CS)
5	Mr P. Kannan	Scientist-E (LS) (w.e.f. 27.10.2020)
6	Dr Abhishek Kumar	Scientist-E (CS) (w.e.f. 23.03.2021)
7	Dr H. G. Hosamani	Scientist-D (LS)
8	Dr Kruti J. Trivedi	Scientist-D (LS) (w.e.f. 06.10.2020)
9	Mrs Vaishali. A. Shah	Scientist-C (LS)
10	Mr. Divyakant R. Vaghela	Scientist-C (CS)
11	Mr Swapnil P. Patel	Scientist-C (CS)
12	Mr Gaurav Prakash	Scientist-C(CS)
13	Mr Dinesh Ranjan Pradhan	Scientist-C (LS)
14	Dr Mitesh Y. Pandya	Scientist-C (LS)
15	Mr Hitesh Solanki	Scientist-C (CS)
16	Mr Pallab Pradhan	Scientist-C (LS)
17	Mr Raja V.	Scientist-C (CS)
18	Mr Kimidi Siva Shankar	Scientist-B (LS) (on lien w.e.f. 28.10.2020)
19	Mrs Hema V. Cholin	Scientist-B (LS)
20	Ms Subohi Sidiqqui	Scientist-B(LS)
21	Mr Dharmesh A. Shah	STO-I (CS)
22	Mr Vijay M. Shrimali	STO-I (CS)
23	Mr Mohit Kumar	STO-I (CS)
24	Mrs Roma Y. Asnani	STO-I (LS)
25	Ms Arti Sawale	STO-I (LS) (w.e.f. 06.10.2020)
26	Mr Sanjay	STA (LS) (w.e.f. 28.10.2020)
27	Mr Supriya Pradhan	STA (LS) (w.e.f. 02.11.2020)
Administrative & Support Staff		
28	Mr Harish Chandra	Administrative Officer (P&A)
29	Mrs Neha Sharma	Administrative Officer (F) (w.e.f. 15.02.2021)
30	Mr S. R. Shah	Section Officer
31	Mrs Y. J. Dave	Office Assistant-II
32	Mr A. B. Parikh	Office Assistant-II
33	Mr Devang Roy	Office Assistant-II
34	Mr S.T.Yadav	Office Assistant-II
35	Mr Lalit Triklani	Assistant (w.e.f. 05.03.2021)
36	Ms Himja Trivedi	Clerk-cum-Typist (w.e.f. 10.02.2021)

37	Mr V. B. Dantani	Helper
38	Mr B.M Parmar	Lab. Attendant
39	Mr Manish R. Bhoi	Helper/Auxiliary Staff-I

State-wise List of SOUL Installations

Sr. No.	Name of the State	Installations	1st April 2020 to 31st March 2021	Total
1	Andhra Pradesh	300	4	304
2	Arunachal Pradesh	1	0	1
3	Assam	91	0	91
4	Bihar	22	1	23
5	Chhattisgarh	46	8	54
6	Daman	4	0	4
7	Goa	3	0	3
8	Gujarat	996	9	1005
9	Haryana	135	43	178
10	Himachal Pradesh	73	0	73
11	Jammu & Kashmir	94	4	98
12	Jharkhand	9	1	10
13	Karnataka	31	0	31
14	Kerala	131	0	131
15	Madhya Pradesh	301	13	314
16	Maharashtra	520	9	529
17	Manipur	2	0	2
18	Meghalaya	3	0	3
19	Mizoram	34	4	38
20	Nagaland	6	0	6
21	Nepal	4	0	4
22	New Delhi	43	0	43
23	North Eastern States*	338	0	338
24	Orissa	11	0	11
25	Pondicherry	5	0	5
26	Punjab	133	0	133
27	Rajasthan	66	1	67
28	Sikkim	4	0	4
29	Tamil Nadu	37	1	38
30	Telangana	6	2	8
31	Uttar Pradesh	119	2	121
32	Uttarakhand	22	1	23
33	West Bengal	150	0	150
	Total	**3740**	**103**	**3843**

*NERO-Funded

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

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Coordinator
DelCON (DBT), Gurgaon

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

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(Member from NIT)

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Librarian
IISER, Mohali
(Member from IISER)

Dr D K Singh
Librarian, Banaras Hindu University, Varanasi
(Member from Central University)
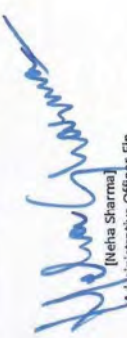
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Librarian, Ambedkar University, Delhi
(Member from State University)

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Director
INFLIBNET Centre, Infocity, Gandhinagar

INFLIBNET CENTRE
Information and Library Network Centre
(An Autonomous Inter-University centre of UGC)
Infocity, Gandhinagar - 382 007

BALANCE SHEET AS AT 31st MARCH, 2021

Amount in Rupees

SOURCES OF FUNDS	Schedule	Current Year 2020-21	Previous Year 2019-20
CORPUS/CAPITAL FUND	1	49,69,06,925.54	54,48,65,793.62
DESIGNATED/ EARMARKED / ENDOWMENT FUNDS	2	1,38,14,23,070.92	91,31,17,443.48
CURRENT LIABILITIES & PROVISIONS	3	19,09,24,640.38	8,65,69,899.40
TOTAL		**2,06,92,54,636.84**	**1,54,45,53,136.50**

APPLICATION OF FUNDS	Schedule	Current Year 2020-21	Previous Year 2019-20
FIXED ASSETS	4		
Tangible Assets		26,68,64,694.94	27,59,88,302.46
Intangible Assets		3,14,965.23	5,64,965.23
Capital Works-In-Progress		-	-
INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS	5		
Long Term		91,95,88,774.00	74,93,60,655.00
Short Term		-	-
INVESTMENTS - OTHERS	6	67,88,85,798.39	39,85,77,476.30
CURRENT ASSETS	7		
LOANS, ADVANCES & DEPOSITS	8	20,36,00,404.28	12,00,61,737.51
TOTAL		**2,06,92,54,636.84**	**1,54,45,53,136.50**

SIGNIFICANT ACCOUNTING POLICIES — 23
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS — 24

As per our report of even date attached.
For Dhirubhai Shah & Co LLP
Chartered Accountants

[Parth S Dadawala]
Partner
FRN : 102511W/W100298
MEM. NO. : 134475
Place : Gandhinagar
Date : 19/07/2021

[Neha Sharma]
Administrative Officer-Fin

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.

[Prof J P Singh Joorel]
Director

Place : Gandhinagar
Date : 19/07/2021

Information and Library Network Centre, (An IUC of UGC)

Page No. : 01

INFLIBNET CENTRE
Information and Library Network Centre
(An Autonomous Inter-University centre of UGC)
Infocity, Gandhinagar - 382 007

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31st MARCH, 2021

Amount in Rupees

Particulars	Schedule	Current Year 2020-21	Previous Year 2019-20
INCOME			
Academic Receipts	9	7,24,72,788.00	9,43,79,000.00
Grants / Subsidies	10	1,04,03,706.00	78,27,728.66
Income from investments	11	7,74,442.00	6,08,246.00
Interest earned	12	1,50,59,720.13	1,72,62,853.32
Other Income	13		-
Prior Period Income	14		-
TOTAL (A)		9,87,10,656.13	12,00,77,827.98
EXPENDITURE			
Staff Payments & Benefits (Establishment expenses)	15	5,42,04,956.00	5,08,49,822.50
Employees Retirement & Terminal Benefits	15 A		-2,65,16,623.00
Academic Expenses	16	28,00,622.93	31,80,852.52
Administrative and General Expenses	17	3,53,78,769.09	2,80,14,159.95
Transportation Expenses	18	5,17,164.66	6,75,507.73
Repairs & Maintenance	19	40,92,309.35	42,33,596.27
Finance costs	20	9,408.24	7,169.90
Depreciation	4	2,78,67,635.25	3,18,39,131.08
Other Expenses	21		-
Prior Period Expenses	22	2,20,26,546.68	
TOTAL (B)		14,68,97,412.20	9,22,83,616.95
Balance being excess of Income over Expenditure (A-B)		-4,81,86,756.07	2,77,94,211.03
Transfer to General Fund		-4,98,94,181.93	
Building fund			
Others (specify)			
Balance Being Surplus / (Deficit) Carried to Corpus Fund		17,07,425.86	2,77,94,211.03
Significant Accounting Policies	23		
Contingent Liabilities and Notes to Accounts	24		

As per our report of even date attached.
For Dhirubhai Shah & Co LLP
Chartered Accountants

[Parth S Dadawala]
Partner
FRN : 102511W/W100298
MEM. NO. : 134475
Place : Gandhinagar
Date : 19/07/2021

[Neha Sharma]
Administrative Officer-Fin

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.

[Prof J P Singh Joorel]
Director

Place : Gandhinagar
Date : 19/07/2021

Information and Library Network Centre, (An IUC of UGC)

Page No. : 02

Dhirubhai Shah & Co LLP
CHARTERED ACCOUNTANTS

4th Floor, Aditya Building
Mithakhali Six Road, Ahmedabad
Telephone No.:079 -26403325/26

INFLIBNET CENTRE
Information and Library Network Centre

Amount in Rupees

SCHEDULE – 2 DESIGNATED/ EARMARKED / ENDOWMENT FUNDS :

	Project Development Fund	D-Space	Swayam Prabha Project	North Eastern Region	E-NBA	UGC Website Maintenance	UGC Grants for Shodhganga	AIU Project	Central University Gujarat - Project
A.									
a) Opening balance of the funds	24,500.00	6,13,210.03	48,22,789.50	6,13,402.54	16,60,647.42	0.00	40,77,742.22	5,36,842.11	0.00
b) Additions during the year	0.00	0.00	81,20,000.00	0.00	0.00	0.00	0.00	5,00,000.00	0.00
c) Income from investments made of the funds	969.00	30,237.00	3,58,577.00	24,254.00	57,033.00	0.00	31,139.00	10,473.00	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
e) Interest on Savings Bank a/c	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
f) Other additions (Specify nature)	0.00	5,20,000.00	0.00	0.00	26,38,101.87	0.00	0.00	0.00	1,20,000.00
g) To be recovered from UGC/MHRD/ Others	0.00	0.00	0.00	0.00	2,94,585.57	3,52,897.95	0.00	0.00	0.00
TOTAL (a+b)	25,469.00	11,63,447.03	1,33,01,366.50	6,37,656.54	46,50,367.86	3,52,897.95	41,08,881.22	10,47,315.11	1,20,000.00
B.									
Utilisation/Expenditure towards objectives of funds									
ii) Capital Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
iii) Revenue Expenditure	0.00	2,32,485.91	16,77,972.67	0.00	46,50,367.86	3,52,897.95	22,92,082.25	10,02,332.07	15,000.00
TOTAL (c)	0.00	2,32,485.91	16,77,972.67	0.00	46,50,367.86	3,52,897.95	22,92,082.25	10,02,332.07	15,000.00
NET BALANCE AS AT THE YEAR END (a+b-c)	25,469.00	9,30,961.12	1,16,23,393.83	6,37,656.54	0.00	0.00	18,16,798.97	44,983.04	1,05,000.00
Represented by									
Cash and Bank Balances	-	-	-	-	-	-	10,55,182.00	-	-
Investments	25,469.00	9,30,961.12	1,16,23,393.83	6,37,656.54	-	-	7,61,616.97	44,983.04	1,05,000.00
Interest accrued but not due	-	-	-	-	-	-	-	-	-
TOTAL	25,469.00	9,30,961.12	1,16,23,393.83	6,37,656.54	18,16,798.97	-	18,16,798.97	44,983.04	1,05,000.00

Information and Library Network Centre, (An IUC of UGC)

INFLIBNET CENTRE
Information and Library Network Centre

SCHEDULE – 2 DESIGNATED/ EARMARKED / ENDOWMENT FUNDS :

	Vidhwan Expert Database	UGC Scheme SA-III	E-Shodh Sindhu AICTE	E-Shodh Sindhu	ICSSR	NIRF	N-LIST	e-Governance Project	PDS Project
A.									
a) Opening balance of the funds	9,47,837.23	0.00	3,71,13,473.00	61,47,92,944.25	13,07,871.17	1,00,00,519.50	7,13,04,950.06	74,36,485.16	9,16,58,942.57
b) Additions during the year	0.00	0.00	10,61,04,757.00	1,54,61,00,000.00	0.00	0.00	0.00	0.00	0.00
c) Income from investments made of the funds	36,722.00	0.00	0.00	1,53,73,417.00	50,885.00	5,82,421.00	47,36,307.00	2,21,515.00	19,67,906.00
d) Accrued Interest on investments/Advances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e) Interest on Savings Bank a/c	0.00	0.00	6,91,273.00	52,45,586.00	0.00	0.00	2,27,772.00	0.00	0.00
f) Other additions (Specify nature)	0.00	0.00	0.00	6,23,56,217.00	0.00	2,10,80,143.30	2,40,61,762.57	0.00	0.00
g) To be recovered from UGC/MHRD/ Others	0.00	5,37,324.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL (a+b)	9,84,559.23	5,37,324.39	14,39,09,503.00	2,24,38,68,164.25	13,58,556.17	3,16,63,083.80	10,03,30,791.63	76,58,000.16	9,36,26,848.57
B.									
Utilisation/Expenditure towards objectives of funds									
i) Capital Expenditure	0.00	0.00	0.00	94,399.00	0.00	9,55,018.00	0.00	24,662.00	0.00
ii) Revenue Expenditure	30,799.99	5,37,324.39	3,53,26,950.00	1,18,25,79,421.39	6,30,799.99	94,76,385.43	5,30,48,237.22	59,53,328.09	4,47,34,000.86
TOTAL (c)	30,799.99	5,37,324.39	3,53,26,950.00	1,18,26,73,820.39	6,30,799.99	1,04,31,403.43	5,30,48,237.22	59,77,990.09	4,47,34,000.86
NET BALANCE AS AT THE YEAR END (a+b-c)	9,53,759.24	0.00	10,85,82,553.00	1,06,11,94,343.86	7,27,756.18	2,12,31,680.37	4,72,82,554.41	16,80,010.07	4,88,92,847.71
Represented by									
Cash And Bank Balances	–	–	10,85,82,553.00	23,45,93,197.48	–	–	14,85,583.99	–	–
Investments	9,53,759.24	–	–	82,66,01,146.38	7,27,756.18	2,12,31,680.37	4,57,96,970.42	16,80,010.07	4,88,92,847.71
Interest accrued but not due	–	–	–	–	–	–	–	–	–
TOTAL	9,53,759.24	–	10,85,82,553.00	1,06,11,94,343.86	7,27,756.18	2,12,31,680.37	4,72,82,554.41	16,80,010.07	4,88,92,847.71

INFLIBNET CENTRE
Information and Library Network Centre

SCHEDULE – 2 DESIGNATED/ EARMARKED / ENDOWMENT FUNDS :

	MGCUB	FSKAN A/c.	Atal FTP Project	Atal Ranking Project	Ek Bharat Shreshttha Bharat Pro	IRINS Project	NAAC Project Expenses	UGC DEB Project	Children University
A.									
a) Opening balance of the funds	9,30,952.31	9,28,595.99	0.00	31,62,642.57	8,76,883.01	56,39,846.62	1,98,423.15	0.00	2,08,153.00
b) Additions during the year	0.00	0.00	93,000.00	39,27,457.63	40,25,000.00	0.00	9,67,706.00	0.00	0.00
c) Income from investments made of the funds	40,647.00	21,291.00	0.00	1,49,515.00	1,28,644.00	1,97,483.00	23,223.00	0.00	20,279.00
d) Accrued Interest on investments/Advances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e) Interest on Savings Bank a/c	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
f) Other additions (Specify nature)	7,98,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13,79,750.00
g) To be recovered from UGC/MHRD/ Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12,09,376.56	0.00
TOTAL (a+b)	17,69,599.31	9,49,886.99	93,000.00	72,39,615.20	50,30,527.01	58,37,329.62	11,89,352.15	12,09,376.56	16,08,182.00
B.									
Utilisation/Expenditure towards objectives of funds									
i) Capital Expenditure	0.00	5,87,400.00	0.00	5,00,000.00	2,38,864.00	6,36,740.00	0.00	0.00	0.00
ii) Revenue Expenditure	3,81,709.31	3,22,575.21	93,000.00	21,05,834.02	4,59,534.08	21,33,159.79	7,77,567.51	12,09,376.56	5,78,595.41
TOTAL (c)	3,81,709.31	9,09,975.21	93,000.00	26,05,834.02	6,98,398.08	27,69,899.79	7,77,567.51	12,09,376.56	5,78,595.41
NET BALANCE AS AT THE YEAR END (a+b-c)	13,87,890.00	39,911.78	0.00	46,33,781.18	43,32,128.93	30,67,429.83	4,11,784.64	0.00	10,29,586.59
Represented by									
Cash and Bank Balances	13,87,890.00	39,911.78	-	46,33,781.18	43,32,128.93	30,67,429.83	4,11,784.64	-	10,29,586.59
Investments	-	-	-	-	-	-	-	-	-
Interest accrued but not due	-	-	-	-	-	-	-	-	-
TOTAL	13,87,890.00	39,911.78	-	46,33,781.18	43,32,128.93	30,67,429.83	4,11,784.64	-	10,29,586.59

INFLIBNET CENTRE
Information and Library Network Centre

SCHEDULE – 2 DESIGNATED/ EARMARKED / ENDOWMENT FUNDS :

	NTA Project Fund	PMMNMT Project Fund	Study In India Project	E-content Portal Maintenance	SPU Project	Swayam Prabha Channel 29	DOS JE Project	FIT India Project	ILMS (Hosting Services) Project
A.									
a) Opening balance of the funds	0.00	7,39,350.38	33,01,274.80	4,90,81,364.89	1,38,000.00	10,00,000.00	0.00	0.00	0.00
b) Additions during the year	7,49,497.13	29,08,000.00	0.00	0.00	0.00	11,25,000.00	0.00	30,36,000.00	0.00
c) Income from investments made of the funds	11,463.00	7,490.00	1,49,866.00	19,26,294.00	5,454.00	53,890.00	0.00	66,342.00	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
e) Interest on Savings Bank a/c	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,05,000.00
f) Other additions (Specify nature)	7,32,470.71	0.00	53,91,570.51	0.00	0.00	0.00	1,86,830.00	0.00	0.00
g) To be recovered from UGC/MHRD/ Others	4,77,698.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL (a+b)	19,71,128.98	36,54,840.38	88,42,711.31	5,10,07,658.89	1,43,454.00	21,78,890.00	1,86,830.00	31,02,342.00	7,05,000.00
B.									
Utilisation/Expenditure towards objectives of funds									
ii) Capital Expenditure	0.00	1,00,000.00	6,00,000.00	6,23,250.00	0.00	24,960.00	0.00	3,65,397.00	0.00
ii) Revenue Expenditure	19,71,128.98	34,06,580.64	46,71,210.41	7,86,475.23	23,000.00	0.00	1,86,830.00	6,97,924.32	0.00
TOTAL (c)	19,71,128.98	35,06,580.64	52,71,210.41	14,09,725.23	23,000.00	24,960.00	1,86,830.00	10,63,321.32	0.00
NET BALANCE AS AT THE YEAR END (a+b-c)	0.00	1,48,259.74	35,71,500.90	4,95,97,933.66	1,20,454.00	21,53,930.00	0.00	20,39,020.68	7,05,000.00
Represented by									
Cash and Bank Balances	-	1,48,259.74	-	-	1,20,454.00	21,53,930.00	-	20,39,020.68	7,05,000.00
Investments	-	-	35,71,500.90	4,95,97,933.66	-	-	-	-	-
Interest accrued but not due	-	-	-	-	-	-	-	-	-
TOTAL	-	1,48,259.74	35,71,500.90	4,95,97,933.66	1,20,454.00	21,53,930.00	-	20,39,020.68	7,05,000.00

Dhirubhai Shah & Co LLP
CHARTERED ACCOUNTANTS

4th Floor, Aditya Building
Mithakhali Six Road, Ahmedabad
Telephone No.:079 -26403325/26

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INFLIBNET CENTRE
Information and Library Network Centre

SCHEDULE – 2 DESIGNATED/ EARMARKED / ENDOWMENT FUNDS :

Amount in Rupees

	JGNDPSOU Project	SSASU Project	Unnat Bharat Abhiyan Project	TOTALS Current Year 2020-2021	TOTALS Previous Year 2019-2020
A.					
a) Opening balance of the funds	0.00	0.00	0.00	91,31,17,443.48	63,11,47,094.60
b) Additions during the year	0.00	0.00	16,94,916.00	1,67,93,51,333.76	2,47,62,87,713.00
c) Income from investments made of the funds	1,176.00	3,771.00	44,638.00	2,63,33,321.00	4,13,96,393.48
d) Accrued Interest on investments/Advances	0.00	0.00	0.00	0.00	14,22,216.00
e) Interest on Savings Bank a/c	0.00	0.00	0.00	94,42,732.87	1,34,22,547.00
f) Other additions (Specify nature)	8,47,458.00	8,47,457.62	0.00	11,88,47,313.23	4,84,88,020.94
g) To be recovered from UGC/MHRD/ Others	0.00	0.00	0.00	24,11,229.09	5,52,61,837.58
TOTAL (a+b)	8,48,634.00	8,51,228.62	17,39,554.00	2,74,95,03,373.43	3,26,74,25,822.60
B.					
Utilisation/Expenditure towards objectives of funds					
i) Capital Expenditure	0.00	0.00	3,15,930.00	50,66,620.00	46,39,410.00
ii) Revenue Expenditure	1,67,500.00	60,098.00	4,41,196.97	1,36,30,13,682.51	2,34,96,68,969.12
TOTAL (c)	1,67,500.00	60,098.00	7,57,126.97	1,36,80,80,302.51	2,35,43,08,379.12
NET BALANCE AS AT THE YEAR END (a+b-c)	6,81,134.00	7,91,130.62	9,82,427.03	1,38,14,23,070.92	91,31,17,443.48
Represented by					
Cash and Bank Balances	6,81,134.00	7,91,130.62	9,82,427.03		
Investments	-	-	-		
Interest accrued but not due	-	-	-		
TOTAL	6,81,134.00	7,91,130.62	9,82,427.03		

Information and Library Network Centre, (An IUC of UGC)

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ShodhGangotri

ICSSR Data Service

e-Shodh
Sindhu

INDEST – AICTE
UGC-INFONET
N-LIST

e-PG Pathshala

INFLIBNET Learning Management Service (ILMS)

SWAYAM (UGC-MOOCs)

SWAYAM Prabha

VIDWAN / IRINS

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Consortium

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&
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e- NBA

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INDCAT

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&
Database

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Services

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Human Resource
Development
(ICT & LIS Skills)

UGC e-Governance systems,
e-SART (UGC-Schemes)

Information and Library Network Centre
(An Autonomous Inter-University Centre of UGC)
Infocity, Post Box No. 4, Gandhinagar - 382 007, Gujarat

Tele.:+ 91 79 23268000, 23268100, Fax:+ 91 79 23268222
Email : director@inflibnet.ac.in
Web: https://www.inflibnet.ac.in

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