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## UGC-Infonet E-Journals Consortium an Indian Model Bridging the Gap between Scholarly Information and End User

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### Abstract

*Any educational system must have to depend on authentic, factual, fast and up to date information. Indian educational system is one of the largest in all over the world but due to financial limitations large number of libraries have not been able to subscribe to quite a good number of journals required for research and academic community, University libraries could play a major role to further improve the status of higher education system of India. After analyzing the situation the University Grants Commission initiated two important projects viz. UGC-Infonet providing connectivity to universities and UGC-Infonet, E-Journals Consortium to provide scholarly access to electronic journals and databases. Probably this is the golden era in the history of higher education system in India. The total program is funded by UGC and ERNET (Education and Research Network) has been entrusted to establish infrastructure within member universities on a turn key basis and the overall monitoring and execution of the project is being done by INFLIBNET. Through this program large number of e-resources subscribed and provided access to faculty and research scholars working in universities. To make people aware about the use of e-resources good number of user awareness training programs and also conducted 5 national seminars at five different places. Usage statistics provided by different publishers are also very interesting and encouraging.*

**Keywords :** Consortia, E-Resources, UGC-Infonet

### 0. Introduction

The history of higher education in India has been started way back to ancient and colonial time which used to restrict up to oral and written communication only. But modern higher educational system in India has been started 147 years back when foundation of three major universities in Calcutta, Madras, and Bombay was led by the British. Today, we have more than 310 universities and 14000 colleges affiliated to these universities and about ten million students are studying in these institutions. All this makes Indian educational system as one of the strongest and largest educational systems in the world. No doubt that it is very complex and complicated to manage this whole educational system in systematic and qualitative manner.

Library is the essential and most important part to drive this whole educational system in systematic way. Students, research scholars, faculty members all have to deal with information only and this is the responsibilities of the library to collect, manage, and disseminate the information to its user according to their need. But in true sense university library in India started making progress after 1924 when *Dr. S R Ranganathan*, the father of library science in India, chaired the *Madras University Library*. He did several efforts to improve the status of university and college libraries. Establishment of University Grants Commission (UGC), 1953 as the apex national organization concerned with the setting up and maintenance of standards in higher education throughout the country was a mile stone in the history of higher education in India. Right from very beginning UGC has been giving importance to the development of university and colleges libraries and taking significant steps to improve the higher education.

We have such a big educational system but not able to generate and acquire scholarly information with in the time. More than 11,000 students are being awarded Ph. D every year. After serious thinking of experts and analysts, one reason has found that our university libraries are unable to fulfill their obligations to the objectives of higher education. The biggest reasons for this are inadequate funds and inadequate information resources. There are many other factors which are working as constraints to free flow of scholarly literature in the university libraries like explosion of information resources, cost of books and journals, which is going higher and higher every year and other side due to shrinking budget library has to cut the subscription of important journals, users demands are also changing day by day, duplication of resources in university libraries, changing nature of collection, etc., and its not possible for an individual library to keep pace with these changes and diversified demands of users single-handedly. The constraints could not stop here, emergence of digital or online information makes the job of librarian and information scientist tougher and more complicated. Our higher educational system has weakened day by day in terms of collection, management, generation, and dissemination of scholarly literature. Some of the reasons are:

- ✍ Subscription of small number of scholarly journals from overseas by universities.
- ✍ Repetition of subscribed titles in different universities.
- ✍ Research conducted by Indian universities is not being considered up to the international level.
- ✍ Most of the scholarly literature is coming online and back volumes of that literature are also being made available online by publishers.
- ✍ Digital Divide in Indian universities.
- ✍ It is difficult to the publisher to deal with many subscribers and in the same way it is difficult for a university to manage the different publishers at a time.
- ✍ In broader sense we can say increasing cost of information, shrinking financial sources and information explosion leads us to many challenges.

Keeping all these things in view University Grants Commission (UGC) has launched two ambitious programs namely "UGC-INFONET" and "UGC-Infonet: E-Journals Consortium" to facilitate the research and academic community of the country in terms of scholarly information with the help of state-of-the-art technology. The foundation of this program was not so easy because it was needed good amount of recurring and non-recurring expenditure with systematic planning. A Joint Technical and Tariff Committee (JTTC), comprises well known scholars and academicians of the country, has been established by the UGC to guide and monitor the entire project which has given the guidelines for proper implementation of the project. In this time of digital environment most of the scholarly literature is being published electronically and accessible on the Internet. So consortium model of subscription has finalized to serve the higher educational system of the country. To pursue this program establishment of a broadband network was important. At this juncture, UGC analyzed the problem of digital divide in different universities and to get rid of this, it was decided to modernize the university campuses with state-of-the-art technology by establishing a nationwide communication network. UGC entrusted this task of establishing infrastructure within the member universities to ERNET (Education and Research Network) India on a turnkey basis. Infrastructure in more than 130 universities has been established so far. The facility subsequently be extended to colleges, therefore, in near future each university will become a hub for colleges affiliated to it.

After a successful trial of more than three months this program was launched by His Excellency Hon'ble Dr. A P J Abdul Kalam, the President of India at Vigyan Bhavan, New Delhi on 28<sup>th</sup> December 2003 in the Golden Jubilee Celebration of UGC.

## 1. Why consortium only?

“Library is a growing organism”, one of the Five Laws of Library Science given by Dr. S R Ranganathan, leads whole world to the flap of Consortium. Consortium is the joint venture of homogeneous institutions working for the same objectives. Being a part of consortium an individual library can spread its wings all around the world with more resources and more services. In today’s scenario consortium is the cutthroat need of the hour, especially for libraries. Library consortium is the virtual way to cope with the different problems of libraries through proper coordination and cooperation. Apart from these, duplication can be avoided as the situation calls for optimum use of resources by rational use of funds and it can be worked as platform for training and workshops for providing strength to the information professionals as well as users.

## 2. Why E-Resource only?

‘E-resource’ is “A term used to describe a variety of resources in electronic format e.g. databases, ‘the web’, e-journals”. No doubt the print mode of information is still dominant medium but now it becomes the secondary mode due to the innovations in information and communication technology (ICT’s) and its involvement in manage, manipulate and disseminate the information. Today, user needs latest and authentic information with minute time lag. S/he cannot wait for weeks or months to get needed information. Here electronic resources are enabling to fulfill these needs, therefore the whole world is shifting from print resources to electronic resources. Some of the advantages of e-resources are:

- ✍ Speedy Information: One can get the information very quickly through e-resources even many weeks before as compare to print issues.
- ✍ E-mailing: One can e-mail the output or important article at his/her e-mail account or any researcher or academicians e-mail account but that one should be limited to copyright issue.
- ✍ E-mail alert: user can get information according to his/her desired journals or topics by registering oneself in the publisher’s site.
- ✍ Hyper links: An E- resource contains the links to other cited articles, e-journals, and other supporting material making like audio, visual aids etc.
- ✍ Maintenance: E-resources have not the problem of wearing and tearing, stolen, binding and shelving etc.
- ✍ Multi access: E-resources have the facility to change the concept of single user to multi user access at one time. In simple words more than one user can access the same information simultaneously.
- ✍ Search facilities: E-resources have the different search options like simple or quick, advance search, which is totally based on Boolean- logic, and search within the search result.
- ✍ No time limit: there is no limit or restriction in respect of time, e-resources can be used on the terms of 24 x 7 hours.
- ✍ Economical: The access to electronic resources can be provided with 85-90% discount compared to print collections. This means access to more resources for less money.

Apart from above quoted benefits of e-resources, downloading facility is there one can download the data in different formats, e-resources needs less space, users can keep up to date themselves by availing different services like article alert service, table of contents (TOC), As Soon As Published (ASAP) articles, etc.

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### 3. UGC-Infonet E-Journals Consortium

As we discussed earlier that “UGC-Infonet E-Journals consortium” has launched by UGC, is one of the biggest and ambitious program in the history of higher education in India. The main objective of this program to facilitate the research and academic community of the country by providing them latest, authentic and scholarly literature from all parts of the world with the help of state-of-the-art technology. The program came into existence with the cooperation and co-ordination of UGC, Education and Research Network (ERNET), Information and Library Network (INFLIBNET) Centre, and many prominent national and international publishers. Here UGC, is the main funding body, ERNET India is responsible for designing and maintaining the infrastructure within the each member university and, INFLIBNET Centre has the responsibility to execute the program in systematic and planned mode. The e-journals consortium has received 60% to 90% discount on subscription of these e-resources and varies from publisher to publisher. This effort enable the faculty and research scholars access to not only current issues of the journals but also getting access to 5 to 10 years back volumes and publishers like IOP and ACS are providing access to whole archive of their collections from volume 1 issue 1 almost the full text access from 1874. This will bridge the gap between the scholarly information, which was denied 5-10 years back and now they will have access to all of their collections. The access to scholarly literature has been made available from January 1<sup>st</sup>, 2004 to 50 universities start with. Additional 50 universities were given on trial basis and from 2005 the access to all collections are extended to these universities. Presently, 2000+ scholarly e-journals with 8 databases and 2 portals are being provided under this program and about 100 universities across the country are accessing these e-resources, some of them are accessing under trial period. The list of full text e-journals and bibliographic databases subscribed under this program are:

- ✍ Chemical Abstract Services (CAS): CAS is the most important, strong and costly service tool in the areas of chemical sciences. This e-resource needs a specialized training to access. Therefore, in 48 universities specialized training program on STN access to Chemical Abstract has been conducted for proper and systematic utilization. The CAS access is given to 10 universities through Sci-Finder and other Universities having the Chemistry subject are getting this access through STN service. The archival access is made available since 1907 onwards.
- ✍ American Chemical Society (ACS): Full text access to ACS titles is giving access to the prominent 31 full text e-journals from volume no.1, issue no. 1.
- ✍ Royal Society of Chemistry (RSC): Full text access to RSC titles is given access to 23 journals and 6 databases and the archival access is made available from 1997- onwards.
- ✍ Institute of Physics (IOP): Access is provided to 36 full text topmost journals in the area of physics, and the archival access is made available from Vol.1 issue.1 of all 36 IOP titles.
- ✍ Nature Journal: World famous 1 full text un-limited simultaneous access for Nature Weekly from 1997 onwards is available.
- ✍ Cambridge University Press (CUP): Access to 72 prominent full text e-journals of CUP are being subscribed under the scheme. and archival access is made available since 1997 onwards. Access to social science and humanities package of CUP titles are given from January 2005.
- ✍ Project Muse: The access is made available to 222 full text journals in the area of humanities and social sciences with the archival access mostly from 1999- onwards.
- ✍ Biological Abstracts (BA): One database for biological sciences more than 7.7 million archival records are available back to 1969.

- ✍ American Institute of Physics (AIP): Access to 19 Full text journals with Archival access from 1997 onwards.
- ✍ American Physical Society (APS): Access is made available to 8 Full text journals from 1997 onwards.
- ✍ Encyclopedia Britannica: This Encyclopedia Britannica is one of the popularly used reference tool and can be used by Faculty and research scholars including colleges across the country. INFLIBNET has the National Site License for this reference tool.
- ✍ Science Online: This is a popular science magazine with 52 issues a year and provides access to the full text of all SCIENCE contents published from October 1996 through the latest issue.
- ✍ Annual Reviews: Access is made available to all 29 full text journals and archival access is provided up to 10 years back issues.
- ✍ Kluwer Journals: Access is made available for approximately all the 650 journals of Kluwer online for one year and after that members can access top 100 Kluwer journals. The archival access is provided from 1997 onwards.
- ✍ Springer Online: Access is made available for around 550 journals from Springer Link for one year and after that member institution will be continued to make access for 100 top Springer journals. The archival access is provided from 1997 onwards.
- ✍ Emerald Journals: Under UGC-Infonet e-journals consortium access is made available for 28 e-journals from Library and Information Science full text database and archival access is varies from journal to journal (mostly 1994- onwards).
- ✍ Elsevier Science: One can access the 34 full text e-journals of health sciences from Cell Press, Current opinions and, Trends. The access is made available through the [www.sciencedirect.com](http://www.sciencedirect.com) and archival access is provided from 1995 onwards.
- ✍ J-STOR: The most awaited e-resource which deals with back volumes of social sciences, humanities and to some extent with natural science subjects. For accessing JSTOR each university perform the Network Performance Test (NPT). This test is essential for getting access to the JSTOR. JSTOR access is presently given to 24 universities selected by the committee. Member universities can access to 319 full text e-journals from Vol.1 issue 1- onwards up to last two-three years gap depending on the moving wall period of original publisher rights.
- ✍ Ingenta and J-Gate, 2 subject gateway portals are also available and both of these are gateways for more than 20,000 journals. One of these portals is provided to each university in the first year, however five major universities have been provided both the portals to get the feedback on these portal services. The portals provide one stop solution to all publications and get access to full text access for the above titles from single window.

Apart from these subscribed e-resources negotiation with prominent publishers is being considered and the number of scholarly journals is likely to be doubled from January 1, 2005.

In the era of digital divide academic and research community are in the crucial period of transformation especially in India. They have to be dependent upon the electronic based collections rather than print based resources due to faster and quicker means of searching, browsing and interlinking facilities. Their expectations have been growing tremendously in this electronic age. But the computer literacy rate, which is a prerequisite in accessing electronic resources, in India, is comparatively less than many developed countries. Along with this it brings out challenges like copyright, archiving and how to exploit these available e-resources are some of the major aspects one should be aware about. So, there is need for awareness among the Indian academic and research community for proper utilization of subscribed resources.

## 5. User Awareness Programs

Role of user awareness program : After getting such an enormous amount of scholarly literature one should have to be aware about all these e-resources. All the publishers are providing many facilities to the users, some facilities are listed below:

The main and foremost motive of these awareness- cum- training programs is to ensure the proper utilization of e-resources by the users.

- ✍ How can user make effective use of available e-resources?
- ✍ What e-resources users are getting?
- ✍ How to make access these e-resources?
- ✍ How to approach abstract, full text of needed article?
- ✍ How to download?
- ✍ How to search a particular article/page?
- ✍ How to use different search options?
- ✍ How to avail e-mail alerts from the side of publisher, etc.?

Now, it is important for the user to utilize these resources in systematic and exhaustive manner. Therefore, the training, orientation and awareness are very much important to inform the user. To keep proper usage of these e-resources INFLIBNET Centre has already been conducting different training, awareness and orientation programs all over the countries. These programs can be divided broadly in four different groups.

### 5.1 One day user awareness program

This type of training program has been conducted at more than 35 universities across the country. The users of these programs are faculty members and research scholars and library staff from the host university.

### 5.2 STN Training Programs:

The same way access to Chemical Abstract through STN needs specialized training and it has been also carried out by INFLIBNET in different places in collaboration with STN staff from Pune. Under this program, participants of more than 45 universities have been trained. This training is especially for subject experts in chemistry from various universities viz. faculty and research scholars and the librarians / asst librarians of these universities. Around 2 to 3 chemical experts and 2 to 3 library staff are trained under the program.

### 5.3 E-Resource Management Using UGC- Infonet Training Program

INFLIBNET has been providing 5 days training to a person (mainly from the library science background) who is nominated by the Vice-Chancellor of that particular university to carry out and co-ordinate the UGC-Infonet project within his or her university. Six training programs have already been conducted, each programs contains 20 to 25 library and information professionals. Till now, professionals from 96 universities have already been trained.

#### 5.4 National Seminars on E-resources

INFLIBNET has conducted five national seminars at five different places across the country to make the academic and research community aware about UGC-Infonet E-Journals Consortium and to solve the problems and doubts of the users in big gatherings. Vadodara (MS University of Baroda, 25-26 Oct., 2004), Goa (Goa University, 1-2 Nov., 2004), Bangalore (Bangalore University, 1-2 Dec., 2004), Kolkatta (Jadavpur University, 10-11 Dec., 2004) and, New Delhi (University of Delhi, 14-15 Dec., 2004) were the five places and huge number of faculty, research scholars and library science professionals working in the universities funded by UGC have attended and taken benefit from these seminars.

Enhancement of systematic approach, proper utilization of e-resources is the main objective of these user awareness programs. Usage statistics is the important tool to evaluate the usages of particular journal or particular subject area. But for this kind of usage statistics we have to depend on the publisher and publisher has to depend on particular tool/software to maintain the statistics. The usage statistics are coming up is very much encouraging to the authority.

Table I

This table is showing the statistics provided by some publishers regarding downloaded hits by the member university under UGC-Infonet E-Journals consortium (January-July, 2004)

| Publisher                        | Jan    | Feb    | March  | April  | May    | June   | July   | Total    | Avg. based Total | % of Total Download |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|----------|------------------|---------------------|
| IOP                              | 5,521  | 6,276  | 4,494  | 5,823  | 4,074  | —      | —      | 26,188   | 36,659           | 08.64               |
| Elsevier                         | 7,225  | 5,666  | 3,977  | 6,814  | —      | —      | —      | 23,682   | 41,440           | 09.76               |
| Springer                         | —      | —      | —      | 2,267  | 4,083  | 3,776  | —      | 11,146   | 26,005           | 06.13               |
| Kluwer                           | —      | —      | —      | 9,194  | 11,158 | 9,904  | 11,778 | 42,034   | 73,556           | 17.33               |
| Kluwer (2 <sup>nd</sup> ph univ) | —      | —      | —      | —      | 924    | 2,646  | 9,668  | 13,238   | 30,891           | 07.28               |
| ACS                              | 15,617 | 20,985 | 26,611 | 24,647 | 24,487 | 24,696 | —      | 1,37,043 | 1,59,880         | 37.65               |
| Sci-finder (CAS)                 | 2,201  | 4,146  | 4,412  | 4,312  | 3,737  | 4,783  | 5,189  | 28,810   | 28,805           | 06.78               |
| Nature                           | 3,585  | 3,337  | 4,796  | 4,817  | 3,105  | 3,749  | —      | 23,389   | 27,286           | 06.43               |
| Total                            | 34,149 | 40,410 | 44,290 | 57,874 | 51,568 | 49,554 | 26,635 | 3,05,530 | 4,24,522         | 100.0               |

#### Note

- ✍ Total number of articles downloaded through some publishers only (month-wise)
- ✍ Statistics from many publishers are still awaited
- ✍ Springer and Kluwer online has been started in April 2004
- ✍ Statistics awaited
- ✍ Statistics of universities which are coming under 2<sup>nd</sup> phase of this program



## 6. Conclusion

Probably for the first time in the history of higher education system in India, higher education has been given prominence and access to many scholarly journals is made available from the support of University Grants Commission. Presently the system allows universities covered under the purview of UGC but gradually it will be extended to colleges and different R & D Institutes of the country. The ultimate goal of this program is work on the virtual philosophy of libraries i.e. right information to the right user at the right time with the help of state-of-the-art technology. Access is more important rather than collection development, whatever you have, that should be accessible. User awareness programs are started working as a tool to achieve the goal of qualitative and authentic research output from the side of Indian universities with the help of scholarly and updated information. This consortium bridging the gap between information and it's end user. Now we have latest information and it is responsibility of the end to utilize and exploit it in systematic and appropriate way. It is expected that e-subscription initiative of UGC-Infonet will bring remarkable change in the academic environment in the country.

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