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# Trends in acquisition and usage of electronic resources at Indian Institutes of Technology libraries

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The paper studies the trends in acquisition of e-resources vis-a-vis their print counterparts, identifies the e-resources being subscribed by Indian Institute of Technology (IITs) libraries at Kharagpur, Bombay, Madras, Delhi, Kanpur, Guwahati and Roorkee either individually or through a consortium, and analyzes the usage of these resources during 2004-11. The study also compiles a union list of all e-resources accessible at IIT Libraries. Data were collected by personal visits, interviews, and using a questionnaire. Web sites and annual reports of the Ministry of Human Resource Development, IITs and INDEST-AICTE Consortium were also scanned to supplement the above information. COUNTER compliant data as provided by the publishers were used to study the usage. Data analysis revealed that IIT libraries spend a significantly large proportion of their budgets to acquire e-resources. There is a clear shift in the collection development policies of these libraries where e-resources have become a vital part of their core collections. E-resources in all IITs are being heavily used as the number of downloads have increased from 32,33,818 to 76,17,691 articles reflecting a growth of 135% over a period of 8 years.

**Keywords**: IIT Libraries; E-resources; Usage statistics

## Introduction

Electronic resources are documents in electronic form or that can be accessed via electronic transmission and include books, journals, newspapers, magazines, archives, theses, conference papers, examination papers, government papers, research reports, scripts and monographs. These resources have become critical part of the learning environment, particularly in the higher education, and bring tremendous benefits to organizations and individuals to perform their work more effectively and efficiently. The benefits of e-resources have been well documented[1].

Numerous studies conducted mainly in academic environment focused on people's perceptions and preferences for electronic resources have found their rapidly growing acceptance within the scholarly community[2-14]. Commonly cited reasons included links to additional resources, ease of searching and searching capability, currency, availability, and ease of access and printing[3].

Access to electronic resources has not only influenced the way students and scholars conduct research, it has also changed the way they use the traditional library. This has forced libraries to reorient their collection development policies and swiftly move towards e-resources resulting in a growing collection of electronic resources with corresponding increase in libraries' acquisition budget on electronic resources[4,5,6].

In India too, electronic resources and services have become the popular tools for research and academic activities[7] and there is an increasing preference for the electronic format as these sources provide faster and reliable information[9]. The shift from print to electronic collections has had an impact on library functioning with increasing number of libraries spending a substantially larger portion of their budget for acquiring a variety of e-resources for their users. Haridasan and Khan in a study of social scientists found that large numbers of research scholars and faculty members at NASSDOC, India are using the e-resources for their research work[10]. Madhusudhan reports that electronic resources have become an integral part of the information needs of research scholars at Kurukshetra University[11]. Ali and Nisha in a study found that that more than 60% of users in the Central Science Library of Delhi University are using e-journals for their research work[10]. According to Kaur, access to e-journals has accelerated research activities in all disciplines of study as the authorities are also supporting provision of access to e-journals either by joining consortia or subscribing directly from the publishers[13]. Sasireka *et.al*. studied the

availability of digital resources in self financing engineering institutions in Tamil Nadu and found that online journals/e-journals are most preferred digital resources[14].

**E-resources in IIT Libraries**

IITs known for their "culture of excellence" impart world-class training in engineering and technology, and conduct research in the relevant fields for advancement of learning and dissemination of knowledge. These Institutes offer undergraduate, postgraduate and Ph.D. programmes in various branches of engineering, technology and interdisciplinary areas. Each of the IITs has a large, well maintained, fully automated Central Library supporting teaching, learning, scholarship and outreach programmes of the institutes[15]. These libraries have been using web based e-resources since late 1990s' and their collection of e-resources has not only been steadily increasing but also being accessed by an increasing number of users. In addition to the e-resources being acquired from their own funds, IITs get access to over 12000 e-journals and databases through INDEST-AICTE Consortium[16,17].

**Objectives of the study**

- To study the trends in acquisition of e-resources vis-a-vis their print counterparts;
- To identify the e-resources being subscribed to by IIT libraries either from their own budgets or through INDEST-AICTE Consortium and compile a union list of all e-resources currently accessible at IIT libraries; and
- To analyze the usage of these resources during 2004-11.

**Methodology**

The study covers 7 IIT Libraries at Kharagpur, Bombay, Madras, Delhi, Kanpur, Guwahati and Roorkee. The data related to trends in acquisition of e-resources vis-a-vis their print counterparts, the amount being spent for this purpose, and the e-resources being subscribed to by IIT libraries were collected during personal visits, interviews, and using a questionnaire. Web sites and annual reports of the Ministry of Human Resource Development, IITs and INDEST-AICTE Consortium were also scanned to supplement the above information.

The usage data/reports as provided by the publishers/database producers were analyzed to understand the usage. The usage reports are a direct and immediately available record of what users have done, and are being used by increasing number of libraries to make subscription decisions (renewing, cancelling, or upgrading subscription to e-resources), to justify expenditure on their electronic resources, and to alert the recommending department regarding less usage of the database[18-21].

Most of the publishers/database producers provide the COUNTER (Counting Online Usage of Networked Electronic Resources, 2012 – Code of practice for e-resources, 4th release)[21] compliant usage statistics in respect of the e-resources on their website which can be directly accessed by the libraries through an interface. However, publishers can also supply the usage reports periodically to the libraries upon request. For the purpose of this study, the usage data in respect of the following e-resources for the period from 2004 to 2011 (8 years) have been analyzed[22]:

1. ABI Inform
2. ACM Digital Library
3. APS/AIP Journals
4. ASCE Journals
5. Ebsco Database
6. Emerald
7. IEEE Xplore Digital Library
8. Nature Publishing Group (NPG) Journals
9. Science Direct
10. Springer Link
11. MathSciNet
12. SciFinder Scholar
13. Scopus
14. Web of Science

The above e-resources were selected because they form a major part of core collection and include resources from publishers like Elsevier Science, Spring Verlag, Nature Publishing Group, IEEE, Thomson Reuters, ASCE, AMS, etc. These include 10 full text databases and 4 bibliographic databases (S. No. 11-14) covering many important e-resources in terms of subject coverage and relevance to IITs, and the number of journals covered. Further, all of them are accessible to all 7 IITs except ABI Inform, Ebsco database and Emerald which are not accessible to IIT Guwahati as it does not have a Department/School of Business Management and their usage data are available in the public domain and could be easily accessed and analyzed.

## Analysis

### Trends in acquisition of e-resources in IIT Libraries

Analysis of the data collected for this study revealed the following:

- In IIT Bombay, the print-only subscriptions have decreased from 923 in 2001 to 425 in 2012, while electronic-only journals have increased from 1 in 2001 to 840 in 2012. Print-and-online subscriptions also decreased from 224 to 25 during the same period.
- IIT Delhi library which was subscribing to 201 print-only and 501 print-and-online titles in 2006-07, has reduced their print-only titles to 120 and stopped all print-and-online titles. The number of online-only titles which was 5 plus 3 packages in 2006-07, has increased to 597 titles plus 21 packages in 2011-12.
- IIT Kharagpur library's print-only subscriptions have decreased from 1080 in 2006 to 217 in 2012, while online-only subscription have increased from 09 to 649 during the same period.
- Online-only subscription in IIT Madras have gone upto 696 in 2012 from 336 in 2010, while print subscriptions have come down to 128 from 630 during the same period.
- In IIT Roorkee, there has been a decrease in print-only (from 367 to 264) and print-and-online subscriptions (from 492 to 405), while there is significant increase in online-only subscriptions from 34 to 146 during 2006 to 2012.
- There is no change in print and print-and-online subscriptions in IIT Guwahati during 2010-12 but the number of online-only subscriptions has increased from 251 to 363 during the same period.

It is evident from the above that there is a clear shift in subscription pattern from print-only/print-and-online to online-only subscriptions in IIT Bombay, Delhi, Kharagpur and Madras. The change is comparatively slow in IIT Roorkee and IIT Guwahati. The study also revealed that IIT libraries at Bombay, Delhi, Madras, Kharagpur and Roorkee spend more than 2/3$^{rd}$ of their budget to subscribe to e-journals and databases and the resources have become integral part of their core collection.

#### *Union list of e-resources*

The study found that the IIT libraries have access to 131 databases/packages/collections covering about 15,000 e-journals, e-books and databases in most of the relevant subjects in engineering, sciences, and technology from all important publishers, societies and associations. It also includes 19 databases being subscribed to by the INDEST-AICTE Consortium (supported by the Ministry of Human Resource Development, Government of India) for all IITs. A union list of all e-resources compiled from the above data has been appended to this paper (Annexure – I).

#### *Usage of e-resources in IIT Libraries*

The usage of all 14 e-resources selected for this study at the 7 IITs during 2004-11 have been presented in Table 1.

Table 1 shows that the downloads have increased from 32,33,818 in 2004 to 76,17,691 in 2011 reflecting an increase of 135% over a period of 8 years which is adequate enough to justify the spending of a large proportion of their funds to procure e-resources. IIT Bombay has been recording consistent increase in the usage of e-resources from 2004 to 2011 with the exception of 2006 when the usage declined marginally.

IIT Delhi which is the head quarter of INDEST-AICTE Consortium recorded highest usage of e-resources in the first year (2004) itself. However, the usage has been fluctuating subsequently. The usage at IIT Delhi increased during 2004-2006, 2008-2009, and in 2011 while showing a declined usage in 2007 and 2010.

IIT Guwahati, one of the youngest among 7 IITs under study, has been recording a consistent increase in the usage of e-resources from 2004 to 2009. Although the usage decreased by 5% in 2010, it has however improved in 2011.

The usage of e-resources at IIT Kanpur shows an increasing trend from 2004 -08 and a decrease in usage during the period 2009-11. IIT Kanpur's total usage of e-resources both in 2011 as well as during 2004-11 is also lower than the IIT Bombay, Khargapur, Delhi and Madras.

Table 1 shows a significant increase in the total usage of e-resources at IIT Kharagpur during 2004-09. IIT Kharagpur was the largest user of e-resources among all IITs in 2009, 2010 and 2011, although its usage for 2010 and 2011 was lower than that of 2009 which has been the highest (1740544 downloads) ever recorded among all IITs.

IIT Madras has recorded the highest total usage of e-resources during 8 years under study. However, the usage has been fluctuating. While the usage increased

Table:1—Downloads of all e-resources at IITs

| S. No | Institute | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | IIT Bombay | 688419 | 1031467 | 921334 | 1111908 | 1188166 | 1366786 | 1413060 | 1449922 | 9171062 |
| 2 | IIT Delhi | 873850 | 943997 | 955766 | 851770 | 973434 | 1170458 | 959507 | 1031799 | 7760581 |
| 3 | IIT Guwahati | 75100 | 160138 | 228400 | 350717 | 443786 | 476694 | 451884 | 482879 | 2669598 |
| 4 | IIT Kanpur | 296511 | 675325 | 766395 | 913749 | 1008828 | 1003190 | 990734 | 989732 | 6644464 |
| 5 | IIT Kharagpur | 516579 | 692419 | 843680 | 1046741 | 1312923 | 1740544 | 1556504 | 1495662 | 9205052 |
| 6 | IIT Madras | 524635 | 1312718 | 1205759 | 1381990 | 1409103 | 1444460 | 1390752 | 1334907 | 10004324 |
| 7 | IIT Roorkee | 258724 | 465785 | 502883 | 605286 | 729560 | 815687 | 858419 | 832790 | 5069134 |
| | Total | 3233818 | 5281849 | 5424217 | 6262161 | 7065800 | 8017819 | 7620860 | 7617691 | 50524215 |

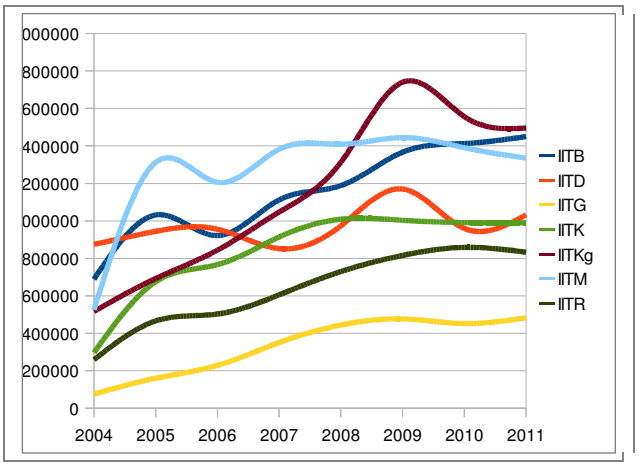


Fig. 1—Trends in Usage of E-Resources at IITs

from 2004 to 2009 except in 2006, the overall usage has been decreasing in 2010 and 2011.

The usage of e-resources at IIT Roorkee has been growing during 2004 -2010 with a marginal decrease in 2011.

## Conclusions

IIT libraries spend a significantly large proportion of their budgets to acquire e-resources in response to the increase in their acceptance by academic community. There is a clear shift in the collection development policies of these libraries where e-resources have become a vital part of their core collections.

E-Resources in all IITs have been very well received and are being heavily used as is evidenced from the growth of 135% over a period of 8 years. This supports IIT libraries spending increasingly large portion of their budget for procuring e-resources.

IIT Madras, IIT Kharagpur, and IIT Bombay were found to be the three largest users of e-resources among IITs with an average annual downloads of more than one million records per institute. IIT Delhi's average annual downloads were 0.97 million records.

Most of the heavily used e-resources include Science Direct, Springer Link, SciFinder Scholar, IEEE Explore Digital Library, MathSciNet, APS/AIP Journals, Scopus, Web of Science, ACM Digital Library, and Nature Group Journls. These resources mainly cover engineering, sciences and technology which are the main thrust areas at all IITs.

In some cases the increase in usage has been fluctuating with marginal decline for some resources. IIT libraries must examine on case to case basis all e-resources particularly those with large subscription costs and poor usage over a period of time for their continuity in future after obtaining the feedback from users. If continuation of such e-resources becomes necessary even after poor usage, IIT libraries must take adequate steps and adopt innovative ways to improve the usage of such resources.

IIT libraries which are looked upon by many librarians and libraries in India as their "Role Models, need to continuously work on their strategies not only to improve and sustain the higher usage of e-resources in their collection but also to reach those segments of the users who still remain under-served.

## References

1 Liu Z, Print vs. electronic resources: a study of user perceptions, preferences, and use, *Information Processing and Management,* 42(2) (2006) 583-592.

2 Appleton L, Perceptions of electronic library resources in further education, *The Electronic Library*, 24(5) (2006) 619-635.

3 Bonthron K, Urquhart C, Thomas R, Armstrong C, Ellis D, Everitt J, Fenton R, Lansdale R, McDermott E, Morris H, Phillips R and Spink S, Trends in use of electronic journals in higher education in the UK: views of academic staff and

students, *D-Lib Magazine,* 9(6) (2003). Available at http://www.dlib.org/dlib/june03/urquhart/06urquhart.html (Accessed on 22 October 2013).

4 Boyce P, King D W, Montgomery C and Tenopir C, How electronic journals are changing patterns of use? *The Serials Librarian*, 46(1–2) (2004) 121–141.

5 Deng H, Emerging patterns and trends in utilizing electronic resources in a higher education environment: an empirical analysis, *New Library World,* 111(3-4) (2009) 87-103.

6 Zhang X and Haslam M, Movement toward a predominantly electronic journal collection, *Library Hi Tech*, 23(1) (2005) 82-89.

7 Moghaddam G G and Talawar V G, The use of scholarly electronic journals at the Indian Institute of Science: a case study in India, *Interlending and Document Supply,* 36(1) (2008) 15-29.

8 Kumar G T and Sampath B T, *Use of electronic information sources by the academic community: a comparative study,* In 6th International Caliber, University of Allahabad, February28 – March 1, 2008 (INFLIBNET Centre; Ahmedabad, India), 2008, p.529-540.

9 Chakravarty R and Singh S, E-resources for Indian universities: new initiatives, *SRELS Journal of Information Management,* 42(1) (2005) 57-73.

10 Haridasan S and Khan M, Impact and use of e-resources by social scientists in National Social Science Documentation Centre (NASSDOC), India, *The Electronic Library,* 27(1) (2009) 117 – 133 .

11 Madhusudhan M, Use of electronic resources by research scholars of Kurukshetra University, *The Electronic Library,* 28(4) (2010) 492-506.

12 Ali P M N and Nisha F, Use of e-journals among research scholars at Central Science Library, University of Delhi, *Collection Building,* 30(1) (2011) 53-60.

13 Kaur A, Impact of electronic journals on university libraries of India: a study, *Library Management*, 32 (8) (2011) 612-630.

14 Sasireka G, Balamurugan S, Gnanasekaran D and Gopalakrishnan S, Use of E-resources in digital environment among engineering institutions in Tamil Nadu (India): an empirical study, *European Journal of Scientific Research*, 60 (3) (2011) 326-333.

15 Jotwani D, Library resources and services in Indian Institutes of Technology, *Annals of Library and Information Studies*, 60(3) (2013) 204-211.

16 Ali N, The use of electronic resources at IIT Delhi Library: a study of search behaviours, *The Electronic Library*, 23(6) (2005) 691 – 700.

17 Kaur B and Verma R, Use and impact of electronic journals in the Indian institute of technology, Delhi, India, *Electronic Library,* 27(4) (2009) 611-622.

18 Baker G and Read E J, Vendor-supplied usage data for electronic resources: a survey of academic libraries, *Learned Publishing*, 21(1) (2008) 48-57.

19 Conyers A, *Usage statistics and online behaviour* (2). In The E-Resources Management Handbook–UKSG, 2010, Available at http://uksg.metapress.com/content/084t98646x2rn62k/ (Accessed on 22 October 2013).

20 Suseela V J, Application of usage statistics for assessing the use of e-journals in University of Hyderabad: a case study, *The Electronic Library,* 29(6) (2011) 751 – 761.

21 COUNTER (Counting Online Usage of NeTworked Electronic Resources), *Code of Practice for e-Resources, (4th Release)*, 2012, Available at www.projectcounter.org/r4/COPR4.pdf (Accessed on 22 October 2013).

22 INDEST-AICTE Consortium, *Annual report* 2011-12*,* Indian Institute of Technology Delhi: New Delhi, 2012.

Annexure – I

Union list of e-resources subscribed by all IITs

| Sl. No | E-Resources Publisher/Package | IITB | IITD | IITG | IITK | IIT Kg | IITM | IITR |
|---|---|---|---|---|---|---|---|---|
| 1 | ABI Inform/Proquest Scientific | √ | √ | X | √ | √ | √ | √ |
| 2 | ACM Digital Library | √ | √ | √ | √ | √ | √ | √ |
| 3 | ACS Journals | √ | √ | √ | √ | √ | √ | √ |
| 4 | AIAA Journals | √ | X | X | X | X | √ | X |
| 5 | AIP/APS/AVS | √ | √ | √ | X | √ | X | X |
| 6 | AJP Package | X | X | X | √ | X | X | X |
| 7 | American Waste Mgt Association | √ | X | X | X | √ | X | X |
| 8 | American Ceramic Society | √ | X | X | X | √ | X | X |
| 9 | American Economic Association Journals | √ | √ | X | X | √ | X | X |
| 10 | American Geophysical Union | √ | √ | X | X | √ | X | X |
| 11 | American Mathematical Society | √ | √ | √ | X | √ | √ | √ |
| 12 | AMS Books Online | X | X | √ | X | X | X | X |
| 13 | American Meteorological Society | √ | √ | X | X | X | X | X |
| 14 | American Society for Microbiology | X | X | X | X | √ | X | X |
| 15 | American Society Of Agronomy | X | X | X | X | √ | X | X |

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| Sl. No | E-Resources Publisher/Package | IITB | IITD | IITG | IITK | IIT Kg | IITM | IITR |
|---|---|---|---|---|---|---|---|---|
| 16 | American Society Of Plant Biologists | X | X | X | X | √ | X | X |
| 17 | Annual Reviews | √ | √ | √ | √ | √ | √ | √ |
| 18 | ASBMB journals | √ | X | X | X | X | X | X |
| 19 | ASCE Journals | √ | √ | √ | √ | √ | √ | √ |
| 20 | ASCE Proceedings | √ | X | X | X | X | X | X |
| 21 | ASME Journals (+AMR) | √ | √ | √ | √ | √ | √ | √ |
| 22 | ASTM Standards & Digital Library | √ | √ | √ | X | X | √ | X |
| 23 | Biological Abstract | X | X | X | √ | X | X | X |
| 24 | BioMed Central (Free in Biology & Medicine | X | X | X | X | X | X | √ |
| 25 | BioOne Journals | √ | X | X | X | X | X | X |
| 26 | Biotechnology & World Textiles Abstract | X | √ | X | X | X | X | X |
| 27 | Bowker's Global Books in Print | X | X | X | √ | X | X | X |
| 28 | Cambridge University Press | √ | √ | √ | X | √ | √ | X |
| 29 | Capitaline | √ | √ | X | √ | √ | √ | √ |
| 30 | Cell Package | √ | X | X | √ | X | X | X |
| 31 | CMIE Database | √ | √ | X | √ | X | X | X |
| 32 | Company Law Publishers | X | X | X | X | √ | X | X |
| 33 | CRIS INFAC Industrial Information | √ | √ | √ | √ | √ | √ | √ |
| 34 | Crisil Research | √ | X | X | X | X | X | X |
| 35 | Cumulative Book Index | X | X | X | √ | X | X | X |
| 36 | ebrary e-Book collection | X | √ | X | X | X | X | X |
| 37 | EBSCO Database | √ | √ | X | √ | √ | √ | √ |
| 38 | EBSCO Textile & Technology Complete | X | √ | X | X | X | X | X |
| 39 | EBSCO– SOC, Humanities, Psychology. | X | X | √ | √ | X | X | X |
| 40 | EdITLib: Education and Information Technology Digital Library | √ | X | X | X | X | X | X |
| 41 | EJ Website | X | X | X | X | X | X | √ |
| 42 | Elsevier's Science Direct | √ | √ | √ | √ | √ | √ | √ |
| 43 | Emerald Management Extra | √ | √ | √ | √ | √ | √ | √ |
| 44 | Encyclopedia of science & technology | X | X | X | √ | X | X | X |
| 45 | Euromonitor (GMID) | √ | √ | X | √ | √ | √ | √ |
| 46 | Geological Society Journals | √ | X | X | X | X | X | X |
| 47 | Geological society of America journals | √ | X | X | X | X | X | X |
| 48 | Hindwai Publications Under Institutional Membership | √ | X | X | X | X | √ | X |
| 49 | ICE/Thomas Telford Journals | √ | √ | √ | √ | √ | √ | √ |
| 50 | IAHR Hydrolink Package | √ | X | X | √ | X | X | X |
| 51 | IATUL Package | √ | X | X | √ | X | X | X |
| 52 | ICSD : Inorganic Crystal Structure Database | √ | X | X | X | X | X | X |
| 53 | IEC Standards | √ | √ | √ | X | X | √ | √ |
| 54 | IEICE Transaction | X | X | X | X | √ | X | X |
| 55 | Imech E Publications current and Archives (PEP) | √ | √ | X | √ | √ | √ | √ |
| 56 | InderScience publisher | √ | X | X | X | √ | √ | X |
| 57 | Indian Journals.com | X | X | X | X | X | X | √ |
| 58 | INFORMS | √ | √ | X | X | √ | X | X |
| 59 | INSPEC | √ | √ | √ | √ | √ | √ | √ |
| 60 | INSIGHT | √ | √ | √ | √ | √ | √ | √ |
| 61 | Institute of Mathematical Statistics Journals | √ | X | X | X | X | X | X |
| 62 | Institute of Physics | √ | √ | X | √ | √ | X | √ |
| 63 | ISI Emerging Markets. | X | √ | X | X | X | X | X |
| 64 | J-Gate (Informatics) | X | X | X | X | X | X | √ |
| 65 | Japan Inst. Of Metals | X | X | X | X | √ | X | X |
| 66 | Japan Publication Trading Co | X | X | X | X | √ | X | X |
| 67 | JCR : Journal Citation Reports | √ | √ | X | X | X | √ | X |
| 68 | JoVE : Journal of Visualized Experiments | √ | X | X | X | X | X | X |
| 69 | JSTOR | √ | √ | √ | √ | X | √ | √ |
| 70 | Lecture Notes - Springer Book Series | √ | √ | √ | X | X | X | X |

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| Sl. No | E-Resources Publisher/Package | IITB | IITD | IITG | IITK | IIT Kg | IITM | IITR |
|---|---|---|---|---|---|---|---|---|
| 71 | Lippincott Williams Wilkins | X | X | X | X | X | √ | X |
| 72 | Library and Information Science Abstracts | X | X | X | √ | X | X | X |
| 73 | Maney Publishers | √ | X | X | X | √ | X | X |
| 74 | Materials Sci & Engg (Trans-Tech Publications) | √ | X | X | X | √ | X | X |
| 75 | Mathematics Backfile ? | X | X | √ | X | X | X | X |
| 76 | MathSciNet | √ | √ | √ | √ | √ | √ | √ |
| 77 | MIT Press | √ | X | X | X | √ | X | X |
| 78 | Multi-Science Publishing Journals | √ | X | X | X | X | X | X |
| 79 | MyiLibrary (26 Titles), | X | √ | X | X | X | X | X |
| 80 | National Geographic | X | X | X | √ | X | X | X |
| 81 | Nature Group (29 titles) | √ | √ | √ | √ | √ | √ | √ |
| 82 | Nature Archives 1980-1996 | X | √ | X | X | X | X | X |
| 83 | New Scientist | √ | X | X | X | X | X | X |
| 84 | NISCAIR Publications | √ | X | X | X | X | X | √ |
| 85 | NOW Publishers package | X | X | X | √ | X | X | X |
| 86 | NRC Press Journal | √ | X | X | X | X | X | X |
| 87 | NTRL Database | X | X | X | √ | X | X | X |
| 88 | OnePetro | X | X | X | X | X | √ | X |
| 89 | Optics InfoBase (OSA) | √ | √ | X | X | X | √ | √ |
| 90 | Oxford Dictionary | X | X | √ | √ | X | X | X |
| 91 | Oxford University Press Journals | √ | √ | X | X | X | √ | X |
| 92 | Palgrave - Macmillan Journals | √ | X | X | X | √ | X | X |
| 93 | Pion Ltd | X | X | X | X | √ | X | X |
| 94 | PNAS: Proceedings of the National Academy of Sciences | √ | √ | √ | √ | √ | √ | √ |
| 95 | POIESIS : Philosophy Online Journals | √ | X | X | X | X | X | X |
| 96 | Project EUCLID Journals | √ | X | X | X | X | X | X |
| 97 | Project MUSE Journals | √ | √ | √ | X | X | √ | X |
| 98 | Proquest Dissertations & Theses A+ B | X | X | X | √ | X | X | √ |
| 99 | Proquest Science (Earlier ASTP) 1994 onwards | X | X | √ | X | X | X | √ |
| 100 | PsycARTICLES | √ | X | X | X | X | X | X |
| 101 | PV-Tech | √ | X | X | X | X | X | X |
| 102 | Royal Institute Of Naval Architecture | X | X | X | X | √ | X | X |
| 103 | Royal Society London | √ | X | X | X | √ | √ | √ |
| 104 | Royal Society of Chemistry | √ | √ | X | X | √ | √ | √ |
| 105 | Sage Journals | √ | √ | X | √ | √ | √ | √ |
| 106 | Science Online | √ | √ | X | X | √ | X | √ |
| 107 | SciFinder Scholar | √ | √ | √ | √ | √ | √ | √ |
| 108 | SCOPUS | √ | √ | √ | √ | √ | √ | √ |
| 109 | Seismological Society of America | √ | X | X | X | X | X | X |
| 110 | SIAM - Locus(Archives) Journals | √ | √ | X | √ | √ | √ | √ |
| 112 | SPIE : Optical Engineering | √ | X | X | X | X | X | X |
| 113 | Springer Link | √ | √ | √ | √ | √ | √ | √ |
| 114 | Springer Journal Archives | √ | X | √ | X | X | X | X |
| 115 | Steel and Composite Structures | X | X | X | √ | X | X | X |
| 116 | Tata McGraw Hill Books | X | X | X | X | X | X | √ |
| 117 | Taylor & Francis Journals | √ | √ | √ | √ | √ | √ | √ |
| 118 | Thieme - Chemistry journals | √ | X | X | X | X | X | X |
| 119 | Thieme Med & Sc Publication | X | X | X | X | √ | X | X |
| 120 | Thieme – Science of synthesis | √ | X | X | X | X | X | X |
| 121 | Tissue Engineering A+B+C | X | X | X | √ | X | X | X |
| 122 | Transportation Research Board | √ | X | X | X | X | √ | X |
| 123 | Ulrich on Disk | X | X | X | √ | X | X | X |
| 124 | University Of California Press | X | X | X | X | √ | X | X |
| 125 | University Of Chicago Press | √ | X | X | X | √ | X | X |
| 126 | University Of Illinois Press | X | X | X | X | √ | X | X |
| 127 | Web of Science | √ | √ | √ | √ | √ | √ | √ |

Annexure – I

Union list of e-resources subscribed by all IITs

| Sl. No | E-Resources Publisher/Package | IITB | IITD | IITG | IITK | IIT Kg | IITM | IITR |
|---|---|---|---|---|---|---|---|---|
| 128 | Wichtig Editore | X | X | X | X | √ | X | X |
| 129 | Wiley / Blackwell Journals | √ | √ | X | √ | √ | √ | √ |
| 130 | World Scientific Journals | √ | √ | X | X | √ | X | X |
| 131 | World Textiles | X | √ | X | X | X | X | X |

Note : X = not available, √ = available