

**Accessing and Effective Utilization of Electronic Information Resources  
By the Faculty Members in Selected Engineering College Libraries  
In Medchal District of Telangana State-A Study**

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**Abstract**

*As we know well, at the present digital environment, the digital or electronic information resources are very much important to any kind of human beings, to fulfill their needs from their desk-tops/palm tops/smart phones at 24x7x365 days. So, they are playing a pivotal role in every sector, especially, in education and more in research and development at the global level. The electronic resources are one of the vital sources for scientific information which are used by majority users like academicians, scientists, research scholars and students. The electronic resources are becoming substantial components of engineering college library collection. This study found that A Majority of the male respondents 140 (70) are more than the female respondents, a Majority of the respondents 100 (50%) were visit the library daily, a total of 200, hundred percent (100) respondents were visit library to borrow the books from the library, followed by, 198 (99) preferred to use electronic resources, 188 (94%) respondents were access and using the IEEE online database, 166 (83%) e-shodhSindh resources, 156 (78%), ASME, 135 (67.5%) ASCE database, Springer Link 148 (74.00). This study suggested that the engineering college management need to provide sufficient funds to the library, and the AICTE also provide special financial assistants to the development of library e-resources and services form remote login.*

**Key-words:**

Engineering college, ICT, College libraries, e-resources, faculty members, AICTE, IEEE online databases

## **Introduction**

Today, the application of ICT (Information and Communication Technologies) in knowledge generation and communication have brought the users and knowledge more closer, the way information is collected, stored, organized, accessed, retrieved and consumed are really productive and more user-friendly. ICT has drastically transformed the way for collection, processing, storage, retrieval and communication of information in libraries and information centers. Particularly, the Internet has completely transformed the traditional method of processing information from collection to communication. It has emerged as the most powerful medium for storage, retrieval and communication of information.

In the last several years, many research studies have focused on how people use electronic resources or on their feelings about electronic and print resources in the library. The use studies of electronic resources appeared in the 1990s, when a large number of electronic journals, CD-ROM databases, e-books, had become widely available. These studies were mostly carried out on the library users, who were the most frequent users of electronic resources. These usage studies lead to many conclusions about the behavior and preferences of library users, although sometimes the conclusions are contradictory or unclear. Libraries, in competition with the internet, have recently been forced to adopt what they have on offer to sustain their role as a provider of specialized information. Libraries have also showed a willingness to improve their services in the light of changed user behavior.

Libraries of all sizes and types are embracing digital collections. New purchases of journals, magazines, abstracting and indexing services are heavily weighted towards digital, while digital books (e-books), e-journals, e-databases are only beginning to show their presence in library collections. Digital collections in libraries are preferred for many reasons like easy access at any place, time saving and digital collections save space and are relatively easy to maintain. Such a dramatic switch from print collections to digital collections has an impact on library users and user's perceptions of the library. The user wants to have easier access to electronic resources and to be able to access these resources any places as quickly as possible.

The technical education plays a vital role in human resource development of the country and also it plays a pivotal role in the socio-economic development of the nation by creating skilled manpower, enhancing industrial productivity and improving the quality of life of its people. For that, the Government of India established the All India Council for Technical Education (AICTE) was set-up in November, 1945 as a national level apex advisory body.

In India by March, 2017, there are 1.67 million students were pursuing the engineering education such as degree and post-graduation programmes through 3,384 colleges and in Andhra Pradesh, there are 3,40,007 students were pursuing through 704 engineering colleges.(google.com).

**Electronic Resources(ER):**

The e-resources play a prominent role in facilitating access to needy information to the users in an easy and expeditious manner. Further, one need not go to the library to make use of print resources, as the digital resource can be use through online access via digital networks or authentication methods at any time by contentedly sitting at home or office. The information available in electronic form called as “Electronic Information”. The electronic information stored in CD’s/DVD’s, Magnetic tapes, Floppies etc. All these e-Information is called as “E-resources”. Now-a-days, the e-information is also available in the form of e-books, e-journals, e-databases, e-conference proceedings, e-theses/e-dissertations.

**Availability of E-Resources in Engineering College Libraries (ECL):** At present, there are three types of electronic/digital resources are available in the college libraries, such as e-shodhsindh consortia resources, DELNET resources and open access resources (OAR) including open educational resources (OER) are available. A majority of the engineering college libraries are acquiring and disseminating the e-resources, like Electronic Books, Electronic Journals, Electronic databases, ETDs, IRs CD-ROM/DVDs to engineering graduates.

**Methodology:** For the present study, a survey method is adopted. A simple random sampling technique is used for data collection and a structured questionnaire administered and distributed to 300 faculty members and 200 filled in questionnaires were received. The response rate is 66.66 per cent age.

**Review of related literature:** Any research study dependents upon the existing availability of review of related literature, which is very essential in research. The following current published literature is related to the present topic of the study. They are published in peer-reviewed, indexed in Scopus, Google scholar, web of science also research gate and highly impact factor national and international journals.

**Anjaiah, M. and Lalitha, R. (2021),** were discussed in their study that the e-resources are very essential in the present digital age. They conducted a study at KITS, Warangal with 85 respondents and collected data with the questionnaires as a research tool. As per their collected data from the respondents, a large majority (64.7%) of the faculty members were opined that

the e-resources are essential, need in their academic and research purpose. **Mahapatra (2017)** in his article analysed that the use of the e-resources among the social scientists between the selected institutions (10) in the city of Bhubaneswar. The investigation was conducted with the objective to evaluate the seeking behaviour of the users, types of e-resources availed, satisfaction levels among the users about the usage of the resources by the social professors. The study was conducted on 90 social scientists from 10 institutes in Bhubaneswar which comprise of Universities and Research Institutions. **Arun Kumar M. and Anjaiah, M. (2018)** in their article discussed about the use of electronic resources by the faculty members, research scholars and professional students at Osmania University, Hyderabad. Out of 200 questionnaires 165 (82.50%) filled questionnaires were received, in this 35 (70.00%) were faculty members, 42 (84.00%) were research scholars and 88 (88.00%) were Post-Graduates (M.Tech.) students. It shows that the Post-Graduates (M.Tech.) students were higher. A large majority 90.90% of users expressed that they are using e-resource and preparing their project reports 39.40% users are using e-resources. A Majority of the users 78.18% preferred e-journals. **Kumar and Chandrashekhra (2019)** carried out a survey on Use of N-List by the faculty members of Govt. college, Kushal nagar, Karnataka. The study reveals that, 100 percent of faculty members are aware of N-List followed by 66.67% of faculty members are use N-List occasionally, 83.33% of the faculty members are access N-List at the library and the study also found that 50% of the faculty members are using N-List with low speed of internet . **Joseph and Humyoon Kabir (2017)** have surveyed the use of e-resources by the PG students of English and Malayalam language students of Kerala University. The study found that JSTOR is the most frequently used resources by English students. A part from Google and Wikipedia, Harithakam is the most frequently used e-resource by the Malayalam students. **Rajeshwar Kumar (2017)** carried out a survey on awareness and use of digital library resources by Faculty members of engineering college libraries in Warangal district of Telangana. The results show that 92.42% of the engineering faculty members are aware about the digital resources, followed by 51% of the faculty members are using digital resources daily, 24.85% once in a week and 8.48% are using rarely. **Raghu Varma and Purushothama Gouda (2017)** studied that usage and impact of e-resources among the PG students of Goa University. The study reveals that female students are using e- resources more when compared to male. Most of the users access internet at their departmental library. **Ravikumar and Vunglianching (2014)** conducted a survey on use of electronic resources by the research scholars of North Eastern-Hill University. The study found that all the respondents were aware on e-resources. Research scholars make most use of e-resources for carrying out assignment

for research purpose and to keep their knowledge up-to-date and research scholars were satisfied with the availability of e-resources.

**Scope of the Study:** The Scope of the present study is confined to “Accessing and Effective Utilization of Electronic Resources by The Faculty Members of Nalla Narasimha Reddy Engineering College (NNREC) and Geethanjali College of Engineering and Technology (GCET) of Medchal District of Telangana State.

**Objectives of the study:** The following Objectives were made for the study: They are:

- To know the status of Nalla Narasimha Reddy Engineering College Library (NNREC) and Geethanjali College of Engineering and Technology (GCET) of Medchal District of Telangana State
- To find out the availability of various types of electronic resources in Nalla Narasimha Reddy Engineering College (NNREC) and Geethanjali College of Engineering and Technology (GCET) of Medchal District of Telangana State
- To know the purpose and frequency of visit of selected college libraries.
- To know the access and effective utilization of electronic resources by the faculty members of the selected two colleges.
- To identify the problems while accessing the electronic information resources by the faculty members of the selected two colleges.
- To know the level of satisfaction on the electronic information resources by the faculty members of the selected two colleges.
- To provide constructive and suitable suggestions based on the present study for the development and the utilization of e-resources effectively.

**Hypotheses:**

- The faculty members of selected college library are accessing and using more electronic resources very much effectively for their teaching and research purpose.
- Most of the faculty members were using the e-journals especially, IEEE journals for their teaching and research purpose.

**Data Analysis and Interpretation:** The data collected from the faculty members of the select two engineering college libraries have been analysed and interpreted in the following tables.

For the present study, three hundred (300) questionnaires, 150 equally to each select engineering college were distributed to the faculty and 200 received. The response rate is 66.66.

Table-1  
College-wise Distribution of the Respondents

Sl. No.	Name of the Engineering College	No. of Questionnaires Distributed	No. of Questionnaires Received
1.	NNREC	150	105
2.	GCET	150	95
3	<b>Total</b>	<b>300</b>	<b>200 (66.66)</b>

*Primary data*

The above table 1 shows with regard to distribution and received the questionnaires from the two selected engineering colleges, namely, Nalla Narasimha Reddy Engineering College (NNREC) and Geethanjali College of Engineering and Technology (GCET) of Medchal District of Telangana State of the study. For each engineering college, 150 questionnaires equally distributed and received as from NNREC is 105 and GCET is 95. The response rate is 66.66. It can be found from the study that, majority faculty from the NNREC than the GCET faculty members.

Table 2: Distribution of Gender-wise respondents

Sl. No.	Gender	No. of the Respondents	Percentage
1.	Male	140	70
2.	Female	60	30
	<b>Total</b>	<b>200</b>	<b>100</b>

*Source: Primary data*

The above Table 2 shows with regard to the distribution of the respondents of the selected study. Out of 200, 140 (70) respondents in the survey are male and the remaining 60(30) are female faculty members. It shows that male respondents are more than the female respondents.

**Frequency of visit the library:** The distribution of respondents according to the frequency of visit the library is shown in Table No.3.

**Table-3: Frequency of visit the Library**

Sl. No.	Frequency	No. of Faculty Members	percentage
1.	Daily	100	50
2.	Once in a week	53	26.5
3.	twice in a week	38	19
4.	Occasionally	9	4.5
	<b>Total</b>	<b>200</b>	<b>100</b>

The above Table 3 shows with regard to frequency of visit library that a majority of the respondents 100 (50%) were visit the library daily, followed by, 26.5 percent visit once in a week, 19 percent twice in a week, and the remaining 4.5 percent were occasionally visit the college library. On the whole, it is found from the study that fifty per cent the respondents (50%) were visiting college library is daily. It may also observe that the college library is proving relevant library information e-resources as per the need of the faculty members.

**Purpose of visit the library:** The research scholar has been put a research question to the selected faculty of the college with regard to purpose of visit the college library and their given replies were presented in the following Table 4 in detail.

**Table-4: Purpose to visit the Library**

Sl. No.	Purpose of Visit	No. of Students	Percentage
1.	To borrow books	200	100
2.	To refer reference collection	87	43.5
3.	To read newspapers	197	98.5
4.	To search internet resources	112	56
5.	To use electronic information resources	198	99

*Note: Respondents were permitted for multiple answers.*

As per the data shown in Table 4 with regard to purpose of visit the library by the respondents of selected engineering college library. A total of 200, hundred percent 200 (100) respondents were visit library to borrow the books from the library, followed by, 198 (99) preferred to use electronic resources, 197 (98.5) to read news papers and magazines, 112 (56) for search internet resources and 87 (43.5) preferred to reference collection.

Is observed from the above table that a large majority of the respondents were visitin the library to use all the library resources i. e. print and electronic resources. It is very appreciatble for the development of a nation.

**Time spent in the Library:** The distribution of students according to their time spent in the library per day is shown in Table No.5

**Table-5:  
Distribution of respondents according to time spent in the Library**

Sl. No.	Frequency	No. of Students	Percentage
1.	Less than 1	50	25
2.	1 to 4 hours	60	30
3.	4 to 10 hours	60	30
4.	More than 10 hours	30	15
	<b>Total</b>	<b>200</b>	<b>100</b>

As per the data shows in Table No.4 that 30 percent of respondents spend 1-4 hours, and 4 to 10 hours per day respectively followed by 25 percent spends less than an hour and the and the remaining 15 percent of students spend more than 10 hours in the library by the select respondents.

### Age-wise Distribution of Respondents

The table shows that the data regarding the age-wise distribution of respondents. The details are clearly presented in Table 6.

**Table-6**  
Age-wise Distribution of Respondents

Age	Professors	Associate Professors	Assistant Professors	Total
20 – 25 years	- 00.00	5 9.25	75 70.09	80 40
26 – 35 years	2 5.18	12 22.22	10 9.34	24 12.00
36 – 45 years	25 64.10	22 40.74	12 11.21	59 29.50
46& above	12 30.76	15 27.77	--	27 13.5
<b>Total</b>	<b>39 (100)</b>	<b>54(100)</b>	<b>107(100)</b>	<b>200 (100)</b>

*Note: Numbers in parentheses denote percentages*

Table 6 clearly shows that the respondents of the present study. Out of 200, 40% of the faculty age is between 20-25 years, followed by, 12.00 % of respondents are of the age-group of 26-35 years, 29.50 % are of the age group of 36-45 years and the remaining 13.5 % are of the age group of 46 & above respectively.

It is found from the study that a majority of the respondents are Assistant Professors than the remaining faculty members with regard to their age-wise. In general, 25 years of age is minimum qualification for recruit the Assistant Professors as per UGC or AICTE rules and regulations in India.

### Teaching Experience of Respondents

The following table shows that the data regarding teaching experience of respondents of the study. The details are clearly presented in Table 7.

**Table No. 7: Teaching Experience of Respondents**

Experience (In Years)	Professors (n=39)	Associate Professors (n=54)	Assistant Professors (n=107)	Total (N=200)
01 – 05 years	3 7.69	5 9.25	52 48.59	60 30.00
06 – 10 years	6 15.38	21 38.88	18 16.8	45 22.5
11 – 15 years	6 15.38	9 16.66	28 5.60	43 21.5



16 – 20 years	5 12.82	12 22.22	5 4.67	22 11.00
21 – 25 years	9 23.07	4 7.40	4 3.73	17 8.5
25 Years & Above	6 15.38	3 5.55	-- 00.00	9 4.5
<b>Total</b>	<b>39</b> (100)	<b>54</b> (100)	<b>107</b> (100)	<b>200</b> (100)

- **01 – 05 years of Teaching Experience:** majority of the respondents 60 (30%) are having 01 – 05 years experience, among them, majority 5 (9.25%) are associate professors, followed by 52 (48.59%) are assistant professors, 3 (7.69%) are professors.
- **06 – 10 years of Teaching Experience** 45 (22.5%) respondents having 06-10 years of experience, among them 18(16.8%) are assistant professors, followed by 21 (38.88%) are associate professors, 6(15.38%) are professors.
- **11 – 15 years of Teaching Experience:** 43 (21.5%) respondents having 11 – 15 years experience, among them 28 (5.60%) are assistant professors, 9 (16.66%) are associate professors, 9 (9.7%) are professors and 6 (15.38%).
- **16 – 20 years of Teaching Experience:** 55 (4.9%) respondents having 16 – 20 years of experience, among them majority of respondents 27 (32.5%) are professors, followed by 10 (22.2%) respondents are associate professors, 18 (9.0%) respondents are assistant professors.
- **21 – 25 years of Teaching Experience:** 22 (3.8%) respondents having 21 – 25 years of experience, among them majority of the respondents 5 (12.82%) are professors, followed by 12 (22.22%) respondents are associate professors, 5 (4.67 %) respondents are assistant professors.
- **25 years and above of Teaching Experience:** 9 (4.5%) respondents having more than 25 years of experience, among them, majority of the respondents 6 (15.38%) are professors, followed by 3 (5.55%) respondents are associate professors.

**Respondents Awareness on ICT:** The distribution of respondents according to their awareness of ICT is shown in the following Table. No. 8 in detail.

**Table-8**  
**Distribution of respondents according to Awareness of ICT**

Sl. No.	Awareness on ICT	No. of Students	Percentage
1.	Yes	200	100
2.	No	-	
	<b>Total</b>	<b>200</b>	<b>100</b>

As per the data mentioned in the above Table No.8 with regard to respondents of the two

select engineering colleges on awareness on ICT. All 200 (100) respondents were aware with regard to Information Communication Technology. It's a good sign.

**Place of access:** The distribution of respondents according to their place of access of electronic resources as shown in Table No.9.

**Table 9**  
Place of Accessing Electronic Resources by the Respondents

Sl. No.	Place of Access	No. of Respondents	Percentage
1	Library	110	55.00
2	Department	35	17.5
3	Smart Phones	55	27.5
	<b>Total</b>	<b>200</b>	<b>100</b>

*Note:*

*Respondents were permitted for multiple answers*

The above table no.9 shows with regard to place of accessing the e-resources by the respondents of the study. A majority of respondents i.e. 55.00 percent prefer "Library" as the place to accessing the electronic information resources, followed by, 17.55 percent of respondents from respective "Departments" and remaining 27.51percent of respondents with Smart Phones.

It is pertinent to note that the majority of respondents are utilizing the resources from the central library of the select engineering college libraries of the present study.

**Purpose of using Electronic Resources:** The distribution of respondents according to their purpose of using electronic information resources is shown in Table No.10.

**Table 10**  
Purpose of using Electronic Information Resources

Sl. No.	Purpose of using Electronic Information Resources	No. of Respondents	%
1	For preparing class-room teaching	48	24.00
2	For Seminar/publishing articles	66	33.00
3	For research project work	56	28.00
4	For finding relevant information	30	15.00
	<b>Total</b>	<b>200</b>	<b>100</b>

*Note: Respondents were permitted for multiple answers.*

Table No.10 shows that the majority, 33.00 percent of respondents were use e-resources for writing of articles for seminars and publishing articles, followed by, 28% for research and project work purpose, 24% for class-room teaching and remaining 15% for finding relevant information. This study shows that all most all the respondents were unitizing e-resources for their academic and research purpose.

**Preference of usage of Electronic Resources:** The distribution of respondents according to their preference for using electronic resources is shown in Table No.8.

Table 11

Preference of using electronic resources by the respondents

Sl. No.	Preference of Use of Electronic Resources	No. of Respondents	Percentage
1.	e-Journals	165	82.5
2.	e-books	188	94.00
3.	ETDs/IRs	98	49.00
4.	Online databases	178	89.00
5.	OAR/OERs	102	51.00
6	E-technical reports	65	32.5

*Note: Respondents were permitted for multiple answers*

As per the data shown in Table No.11 with regard to prefer use of e-resources by the respondents of the select two engineering college libraries. A total of 200, a large majority of the responds prefer to use e-books (94%), followed by, online databases (89%), e-journals (82.5%), OAR/OERs (51%), and remaining 49%) respondents prefer to use of ETDs/IRs. This study found that a large majority of the respondents were prefer to use of e-resources as per their academic need.

**Online Databases:** Among the electronic resources, the databases are more needful, useful and each database provides the different types of current articles, which are published in indexed and peer reviewed on the concerned discipline/subject, they are more useful to the faculty. So, today, majority engineering college libraries are subscribing the online databases, which they provide. Hence, the researcher has been put a research question to know the use of different types of databases and their usage level and the respondent's replies were given discussed in detail in the mentioned following Table No.12 in detail.

Table 12

Access and Using online databases by the faculty members  
(N=200)

Sl. No.	Name of Database	No. of the Respondents	Percentage
1	IEEE	188	94.00
2	ASME	156	78.00

3	ASCE	135	67.5	So ur ce : Re sp on
4	Springer Links	148	74.00	
5	Elsevier Science Direct	145	72.5	
6	J-GATE	102	51.00	
7	e-shodhSindh Resources	166	83.00	
8	OAR/OER	151	75.5	

*dents were permitted for multiple answers*

As per the data shown in Table12 with regard to access and using of the online databases by the select two engineering college respondents of the present study. The respondents were asked multiple questions and their given replies discussed as: A large majority of respondents, 188 (94%) were access and use of online IEEE database, followed by 166 (83%) e-shodhSindh resources, 156 (78%), ASME, 135 (67.5%) ASCE database, Springer Link 148 (74.00), ElsevierScience Direct 145 (72.5), 102 (51.00\_ Jpgate, and 151(75.5%) were OAR/OER resources.

This study shows that the IEEE and Springer Links and Elsevier Science Direct databases were using more by the faculty members of two selected engineering of the study.

**Advantages:** The distribution of respondents according to their advantages in referring electronic information resources as shown in Table No.13.

Table-13  
Advantages of Electronic Information Resources

Sl. No.	Advantages with Electronic Resources	No. of Respondents	Percentage
1.	Easy to Access	39	19.5
2.	Better Readability	18	9.00
3.	Effectiveness	32	16.00
4.	Easy to Search	56	28.00
5.	Time Saving	32	16.00
6.	Easy to Download	23	11.5
	<b>Total</b>	<b>200</b>	<b>100</b>

*Primary data*

Table No.13 reveals that the majority of 39 percent of respondents use e-resources to access the information easily, followed by 23 percent use it for time saving, 15 percent use

the electronic information resources to search the information easily, 15 percent use it for effectiveness, 7 percent of them to use electronic information resources as it is easy to download, and 5 percent is for better readability.

**Facing problems while using electronic information resources:** The distribution of respondents according to their problems facing in referring electronic information resources is shown in Table No.14

Table-14  
Problems facing while accessing Electronic Information Resources

Sl. No.	Name of the problem facing	No. of Respondents	Percentage
1	Lack of searching knowledge	32	16.00
2	Lack of knowledge in access and use online databases	21	10.5
3	Internet connectivity related problems	42	21.00
4	Electronic Books, Electronic Journals, Electronic databases, ETDs, IRs CD-ROM/DVDs	24	12.00
5	Lack of frequently power-off	30	15.00
6	Lack of skilled library staff	8	4.00
7	Lack of sufficient e-resources	43	21.5
		200	100.00

*Note: Respondents were permitted for multiple answers*

The above Table No.14 reveals that 16 percent of respondents are facing problems due to lack of search knowledge, followed by, 21 percent are due to internet connectivity related problems, 10.5 percent due to lack of knowledge in using database, 13 percent face inconvenience, 21.5 percent of them face problems due to lack of sufficient e-resources, 15 percent lack of frequently power off and 4 percent lack of skilled library staff.

On the whole, small percent of the respondents were facing problems in the library while accessing and using the resources in the college library.

**Level of Satisfaction on E-Resources:** The college library is facilitating a variety of e-databases to its users. The users are using the e-databases and expressed their satisfaction on use of e- databases, the researcher gathered their responses and presented in the following Table No. 15 in a scientific way.

Table 15: Level of Satisfaction on Electronic Resources

Sl. No.	Level of Satisfaction	Faculty Members	Percentage
1	Mostly satisfied	47	23.5
2	Satisfied	107	53.5
3	Somehow satisfied	33	16.5
4	Not satisfied	13	6.5
5	Total	200	100.00

*Source: primary data*

It is found from the above Table No.15 that, out of 200 faculty members, majority (53.5 %) of the faculty members were satisfied with the availability of e-resources, followed by, 23.5 per cent were mostly satisfied, and only 6.5 per cent were not satisfied with the availability of e-resources.

It is found from the study that a large majority (154, 77%) of the faculty members were satisfied with the availability and use of electronic resources in the selected two engineering college libraries of the study.

**Major findings of the study:** The following major findings were found from the study. They are:

1. A Majority of the male respondents 140 (70) are more than the female respondents.
2. A Majority of the respondents 100 (50%) were visit the library daily.
3. A total of 200, hundred percent 200 (100) respondents were visit library to borrow the books from the library, followed by, 198 (99) preferred to use electronic resources.
4. Out of 200, 40% of the faculty age is between 20-25 years.
5. A Majority of respondents i.e. 55.00 percent prefer "Library" as the place to accessing the electronic information resources.
6. 33.00 percent of respondents were use e-resources for writing of articles for seminars and publishing articles, followed by, 28% for research and project work purpose, 24% for class-room teaching.
7. A Large Majority of the responds prefer to use e-books (94%), followed by, online databases (89%), e-journals (82.5%) and OAR/OERs (51%).
8. A Large Majority of respondents, 188 (94%) were access and use of online IEEE database, followed by 166 (83%) e-shodhSindh resources, 156 (78%), ASME, 135 (67.5%) ASCE database, Springer Link 148 (74.00), Elsevier Science Direct 145 (72.5), 102 (51.00) J-Gate.

9. 21 percent of the respondents are due to internet connectivity related problems and 10.5 percent due to lack of knowledge in using database.
10. A Majority (53.5 %) of the faculty members were satisfied with the availability of e-resources and 23.5 per cent were mostly satisfied.

### **Conclusion**

Information and communication technology (ICT) has revolutionized every walk of human society. Large scale computerization, invention of the internet and influx of World Wide Web has made extensive and fast dissemination of information and turned the world into a global village. The electronic resources (e-resources) available in a library play a prominent role in facilitating access to required information to the users in an easy and expeditious manner. The e-resources from the AICTE-INDEST Consortium e-journals such as 126 journals from IEEE, 900+ conference proceedings as well as active IEEE standards – over 1 million documents in all. More than 25,000 new titles are added per month. It provides access to 22,72,351+ full-text documents are more utilising by the faculty members in their teaching and research, they are visiting the library frequently to obtain the needed e-journals. Hence, the e-resources in technical education are very essential to the development of a nation.

### **Suggestions:**

1. The AICTE need to allocate special budget to digital libraries to provide ICT services to engineering graduates.
2. The engineering college libraries have to procure more online databases as per the demands of users as per the syllabi.
3. There is urgent need to conduct the hand-on-workshops, training programmes to users for more utilization of e-resources to deliver the current subject related information.
4. The internet bandwidth (speed) should be increased, provide UPS in the library.
5. More computer nodes have to be provide with the LED computers instead of desktop computers.
6. The financial resources allocation also increased year-by-year.
7. Finally, the respondents of the study are need to more ICT skills. So, they need to attend online work-shops, pursue the SWAYAM Courses and develop the web-based content to learn by the student community as per the need of the present digital society.

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