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Use of Electronic Information Resources in Engineering College Libraries

Raja Suresh Kumar Pitla , Librarian
Malla Reddy Institute of Technology & Science (MRITS), rajasureshkumar.pitla@gmail.com

Ramakrishna Kona , Assistant Librarian
Knowledge Resources Centre, GITAM (Deemed to be University),, ramakrishnakonasbt@gmail.com

Rudraksha Gowridevi , Research Scholar & Guest Faculty
Department of Library and Information Science, Andhra University, gowridevirudraksha18@gmail.com

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Raja Suresh Kumar Pitla
Librarian, Malla Reddy Institute of Technology & Science (MRITS) Maisamma Guda Village, Secunderabad, Telangana Email: rajasureshkumar.pitla@gmail.com

Ramakrishna Kona
Assistant Librarian, Knowledge Resources Centre, GITAM (Deemed to be University), Andhra Pradesh, India, ramakrishnakonasbt@gmail.com

Rudraksha Gowridevi
Research Scholar & Guest faculty, Department of Library and Information Science, Andhra University, Andhra Pradesh, India, gowridevirudraksha18@gmail.com

ABSTRACT

The Study examined the use of Electronic Resources in Engineering College Libraries in Krishna District, Andhra Pradesh, India. In this study collecting primary data for the present study, the investigator adopted the survey method. The tool employed for collecting data is questionnaire. The questionnaire is designed in such a way to collect the data from the library users (faculty members) of engineering college libraries. Qquestionnaires were circulated among 890 library users out of whom 705 responses were received representing 79% of the total sample to whom the questionnaire was distributed. It is evident from the analysis that 448 (63.54%) majority of respondents are male users, 379 (53.75%) majority of respondent users are Assistant Professors, 259 (36.73%) majority of respondents visit the library on a daily basis, 631 (89.50%) respondents who feel that the library had convenient working hours. The study found that majority of user's visits library for borrowing books, reference books and electronic journals. The study found that majority of users use IEEE, SCOPUS, Springer, NPTEL services. The study found that highly satisfied with IEEE facility, DELNET facility, NPTEL Videos and 419 (59.43%) are not availing the facility of CMIE Prowess. Finally the study suggested that the users are not aware of about some electronic information resources, so the engineering college libraries will conduct information literacy programmes on electronic resources.

Keywords: Higher Education, Engineering Education, Engineering Colleges, Academic Libraries, Library and Information Services and Resources, Electronic Information Resources

INTRODUCTION

The resources which store the information electronically and are accessed with the help of electronic systems and networks are called as electronic resources. The electronic resources are the collection of data in the form of either text, graphical, multimedia; numerical which are available both freely and commercially for the users. The term Electronic resources is used as a broader sense and include various items such as e-journals, e-books, CD-ROMs, OPAC, web publishing, wireless publishing, online databases, e-thesis, internet resources, electronic links, e-dissertations, e-mail publishing, bibliographic databases, search engines, print on demand.

ENGINEERING EDUCATION

Engineering is the profession which aims at providing solutions to the apparent problems of the society with focus on developing scientific knowledge. This is the stream which helped in revolutionising the society from a normal society to an industrialised society to technology driven society over the years. The major objective of the engineering education is towards the betterment of the society with the induction and implementation of the technical applications in the day to day activities of the human race. Engineers understand the reality and access the problems so that a fruitful solution is provided to these prevailing problems.

ENGINEERING EDUCATION IN INDIA

India is one of the oldest civilizations in the world which has seen Aryan tribes and Dravidian inhabitants forming the classical Indian culture followed by the Arab culture, Turkish culture, European culture and finally British colonial system in the country. There are various inventions which revolutionised the mankind in their way of living. The formal engineering education system was laid during the British rule in the country. Engineering education in India was initiated way back in 1794 where the Survey School was established in Madras to impart education in the modern land survey. The first engineering college has started in 1847 at Roorkee with special focus on Civil Engineering. Subsequently the need for engineering education was identified and three more engineering colleges were started by the British government at Madras, Bombay and Bengal in the year 1856. Later in 1887 Victoria Jubilee Technical Institute was started in Bombay to educate in Mechanical, Electrical and Textile Engineering. With time, the significance of technical education had gained importance and several institutions were established by both the government and private players to impart technical education to students of the country.

Some of the prominent engineering institutions established in the country over the years include the College of Engineering at Guindy, Banaras Hindu University, Visvesvaraya College of Engineering. Several committees were formed to evolve the strategies and pave the path for the development of engineering education in the country. Sarkar Committee suggested starting of technical institutions across the country to impart advanced technical education in the country. As part of this Indian Institute of Technology (IITs) were started in Kharagpur, Delhi, Kanpur, Madras and Bombay. To overview the technical education at various levels in the country, All India Council of Technical Education (AICTE) was formed in 1945. After the independence, it was perceived by the rulers that the economic development of India is possible with the help of engineers and engineering education. Based on this perception, the establishment of engineering institutions across the country and at different levels with the help of developed countries was undertaken. Technical Institutions were established along with various programmes and initiatives during the successive five-year plans in the country; resulting in huge reservoirs of technically trained manpower. The technical education had significant contributions towards the scientific and industrial development of the country. The country's abundant resources of educated, trained and competent manpower are an asset in the modern world.

REVIEW OF LITERATURE

Amritpal and Sarwan (2010) conducted a survey on use of electronic databases in university libraries. The study covered different portions of the use of e-databases such as associate with databases, a method of learning database use skills, the frequency of database use, the purpose of the database are used. The study advised some suggestions were put forth to make the e- databases a collection of beneficial for studies and research purpose

Natarajan (2010) examined use and user awareness of the electronic resources in university library. The data was collected from 117 faculty and research scholars. The study found that majority of the faculty 71% and research scholars 82% were aware of electronic resources available in the library and 58% of the faculty members and 62% of the research scholars were satisfied with the availability of electronic resources. The study exposed that availability of lack of time, awareness, and slow downloading. The study recommended to give large publicity and communicate training programmes to utilize electronic resources to the maximum extent.

Thanuskodi and Ravi (2011) descibed the use of electronic resources in university library by faculty and research scholars. The study found that 67% of a faculty was recognizable

with the use of electronic resources and most of the library users were using electronic resources for their research work. The study found that most of the faculty were learning the required the skills for the usage of electronic resources through the self-study.

Zabed Ahmed (2013) examined a study use of electronic sources in selected public universities by faculty members. The examiner prepared an online questionnaire for user survey. The study found that the faculty were not satisfied with the present level of university subscribed electronic resources. The library users identified limited numbers of titles, limited access to journals back volumes difficulty in a finding of information inability to access from home, limited access to computers and download speed was very slow.

Oyedapo and Ojo (2013) examined usage of electronic resources in university library. The users are availing the electronic journals, dictionaries, email facilities from the college library. The study found that the availability of electronic resources had its influence on the usage of the resources. The library users are responsive of the electronic resources, only 6% of them are using and this raises the need to conduct orientation programs for the effective utilisation of the resources. The study executed to provide uninterrupted power supply, increased internet connectivity and induction of retrieval skills for the users.

Seema (2014) studied survey about the use of electronic resources by research scholars and faculty at technical university libraries. This paper discussed the university users to study their knowledge, awareness, and manners towards the electronic resources. The study applied a regular survey method of the questionnaire. The study found that presentation and consequence of electronic resources among research scholars and the faculty members of selected technical university libraries.

Gupta and Sharma (2014) examined the use online information resources by the students of Indian Institute of Technology. The study exposed that 59.7% of users prefer to use print as well as digital resources. The library widely used by majority of respondents 64.7% to use digital information resources and services, 51.5% of users were satisfied with the available digital information resources and services and 74.5% of users agree that more training and orientation programme to be conducted for the optimization of digital information resources and services.

Rajput and Gautam (2014) discussed users attitude towards electronic resources and services. The study examines the main purpose of the users to visit the library, their awareness about IT based services, identify the most impressive services, detected the problems encounter by the users and also find out the satisfaction of the users about the

various type of services provided by the central library, finally highlights the suggestions given by the users for improvement and better utilization of the library services.

Shivaraja (2014) discussed the electronic resources and its growing popularity among the user community. The present study conducted on 210 respondents, who are nursing students and faculty members about the usage of the electronic resources, frequency and purpose of usage along with the problems in accessing the resources. The study exposed that majority of the users aware of the e-resources and use these resources to meet their academic and teaching activities. Most of the users are using both the print and electronic resources to meet their academic information needs.

Ramakrishna and others (2015) examined the status of online resources in selected Deemed university libraries. The study an efforts to present inclusive and up to date information about the number of online resources subscribed and number of online resources available in the university libraries, based upon the findings. This study suggested that is need to strengthen the services affecting online resources are have been given.

Priyadharshini and others (2015) studied the role played by the electronic resources in permiting the users have access to the desired information in the libraries. The study found that most of the library users are aware of the electronic resources which are freely accessible via internet, e-journals, e-thesis and online databases. It is also observed that the research scholars and faculty members are accessing the e-journals which are freely accessible through internet with the help of search engines like Google, Bing, and Yahoo etc.

Guruprasad and others (2016) discussed about utilization of electronic resources by research scholars. The study verified how many of the users using electronic resources, in this study distributed 153 questionnaires and collected 128 filled questionnaires. The study found that majority of the library users access electronic journals, electronic books, and electronic databases. It was exposed that the most of users were aware of electronic resources and more predominantly increases virtual resources to carry their research activities.

Ramakrishna and others (2016) examined the status and usage of library resources and services and library use opinion about library working hours, library physical facilities, library information sources and service university library. The study covers collection development, library membership, staff position, working hours, library automation, services offered and availability of online resources are also discussed. The study observed that most library users fully satisfied with library facilities, library working hours, information sources and library information services.

Ramakrishna and others (2016) studied usage of library resources and services of RSVP. The study covered collection development, library membership, staff position, working hours, library automation, services offered and availability of online resources are also discussed. The study observed that that majority 47.22% of the respondents belongs to post graduate students, majority 21.11% of users visiting daily, 36.11% of users visiting library research purpose, majority 28.80% of users using books lending service; here users convey their majority opinion about library working hours (36.11%), physical facilities (48.33%), Library information services (37.22%) and library information resources (37.77%). The study exposed that the library users fully satisfied with library facilities, library working hours, information sources and library information services.

Ramakrishna and others (2016) examined the library information resources and services of selected Deemed to be University libraries. The study exposed collection development, library membership, staff position, working hours, library automation, services offered and availability of online resources.

Khaisar (2016) discussed about the use of electronic information sources at University of Mysore by research scholars. In this study used random sampling technique, distribute 180 questionnaires and collected 150 filled questionnaires the response rate was 83%. These days availability of online information resources in a university library is very common. The study revealed that majority of users respond satisfied with university subscribed online resources.

Bhat and Ganaie (2016) examined that the electronic resources are the collections of data which include of text, graphical, numerical formats in the form of e-journals, e-books, multimedia content, online databases etc. The present study aims at analysing the usage of the e-resources by the academic users in the Dr Y S Parmar University of Horticulture and Forestry library. The study observed that most of the respondents are using both the electronic and print publications to meet their academic and research activities. The study found that the respondents preferred the online mode of access of the resources and this is same among the different type of users. The library users are accessing the e-journals and there is less number of respondents accessing the e-books, e-thesis.

Kaushik and Narayan (2016) described the impact of electronic resources along with the purpose of availing, advantages and disadvantages, and positive and negative impacts of e-resources in libraries and information resources centres. The study observed that the electronic resources are broadly used and preferred by the students, teachers and research scholars to retrieve the information as per their academic requirements. The study emphasised the need on the library professionals to be more proactive to meet the needs of

the user community by improving the library services. The users are dependent on the electronic resources to fulfil their information needs, update their knowledge and improve their career options. The study found that the consortiums are providing effective resources to the library and the users.

Malarvizhi and Sarangapani (2016) examined usage of electronic resources by the faculty at Karunya University. The study observed that the faculties are accessing the electronic information resources to meet their academic requirements, update their knowledge by quick access to databases without any problems. The study found that the faculties are accessing the resources on a daily basis and mostly using the internet and CD-ROM. The study observed that the faculty members are satisfied with these electronic resources. It is revealed that the long time is being taken to download the desired content of information from the resources and also there is need to increase the number of electronic journals in the university library to cater to the academic and research requirements of the faculty members.

Ramakrishna and others (2017) discussed use of electronic information resources by pharmacy students. The study found that most of students used electronic information resources for study and research purpose, 20% for career development, 17 % for improving knowledge, The study observed that most of the users use Google as the search engine for using electronic resources, 42% of users use abstracting journals and 33% of users use MEDLINE Database.

Ramakrishna and others (2017) described collection development, library membership, staff position, working hours, library automation, usage of library resources and services of selected deemed university , distributed 1000 and collected 914 responses. The study found that all selected university libraries maintain good collection library resources, services and majority of library users expressed their opinion about library working hours, physical facility, library information resources and services excellent and good.

Ramakrishna and others (2017) observed the use of electronic information resources by students of GITAM institute of Pharmacy, GITAM University. Preapred well structured questionnaire was administered to 200 users to collect the primary data from respondents. 175 filled in questionnaires were received showing overall response rate of counterproductive to evaluate students as one group. The study observed that majority of students 54 percent used electronic resources for study and research, 20 percent for career development, 17 percent for improving knowledge and 7 percent using electronic information resources for finding quick information. The study observed that majority of the user 62 percent use

Google as the search engine for using electronic resources. majority of the students 42 percent use abstracting journals, and most of the students 33 percent prefer using Medicine and as database.

Aravind (2017) discussed the usage of electronic information resources among the students of engineering colleges. In this study 250 questionnaires were distributed. The study observed that majority of the library users report the privacy problem is the prime problem in using electronic resources and they need workshop and classes for the effective use of electronic information resources.

Ramakrishna and others (2018) examined user opinion about effectiveness of library and information services of K L Deemed to be university. The study observed that majority of library users expressed their opinion about effectiveness of library services as very effective and effective, majority 42 percent of users expressed their opinion on interlibrary loan service respond as ineffective and 34% of library users respond as ineffective. Lastly most of research scholars satisfied on the resources and services of the university library.

Gowridevi and others (2018) studied effectiveness and usage of library information resources and services in GITAM university. The investigator distributed questionnaire among 150 research scholars from all departments, 120 of respondents are submit filled questionnaires. The study observed that majority of library users fully satisfied with library and resources and services,75 percent of users very effective on library and information sources, majority 81 percent of research scholars respond very effective on library and information services.

Raja Suresh Kumar and others (2018) conducted a study on use of N-List electronic information resources by faculty members. The study observed that majority of the faculty and students are aware about N-List e resources .The respondents of both the institutions access the electronic information resources through the college library. The found that majority of the library users of both institutions access N- list electronic information resources once in a week. Faculty using N-List information resources for their teaching and research work as well as for keeping up to date in their specified subject field.

Venkateswarlu and Raja Suresh Kumar (2018) studied use of electronic information resources by faculty and students. In this study a questionnaire was distributed to find out use of electronic information resources and know the whether the students and faculty get satisfied with the services offered by the libraries and the way of acquiring relevant information, and discover the level of satisfaction students obtain when seeking for

information and resolve the students opinion, suggestions while they are seeking information at Institutions libraries.

SCOPE OF THE STUDY

The study covers 35 Engineering College Libraries in Krishna district the state of Andhra Pradesh India.

STATEMENT OF THE PROBLEM

The present study is envisaged under the title of "Use of Electronic Information Resources in Engineering College Libraries".

OBJECTIVES OF THE STUDY

- To study frequency of visiting to university libraries.
- To study purpose of visiting library.
- To study user opinion on convenience of library working hours.
- To study usage status of electronic information resources in Engineering College Libraries.
- To examine the satisfaction levels of the usage of the Electronic Information Resources.

SAMPLE SIZE

In the present study, the engineering colleges located in the Krishna district, Andhra Pradesh, India are considered for the study. There are 35 engineering colleges under the study and five questionnaires for each department are issued for collecting the information. 890 questionnaires were distributed to the faculty members of these engineering colleges. The sampling technique for the survey is Snowball Sampling Technique (reference based method) and convenience-sampling method. This method is selected by considering time factor for the survey and population. Out of the 890 questionnaires distributed to the respondents, 705 filled questionnaires were received back and these are considered for the analysis.

METHODOLOGY

There are different methods and procedures used to gather data for qualitative research that include survey method, historical method, descriptive method and case study method. For collecting primary data for the present study, the investigator adopted the survey method. The tool employed for collecting data is questionnaire. The questionnaire is designed in such a way to collect the data from the library users (faculty members) of engineering college libraries in Krishna district, Andhra Pradesh, India. The observation and interview techniques

are also used where ever they are necessary for the collection of primary data. The data collected is analysed in the light of the objectives stated.

DATA ANALYSIS OF THE STUDY

1. Gender wise distribution of the respondents

Table No. 1
Gender wise distribution of the Respondents

Gender	Total	Percentage
Female	257	36.45%
Male	448	63.54%
Total	**705**	**100.00%**

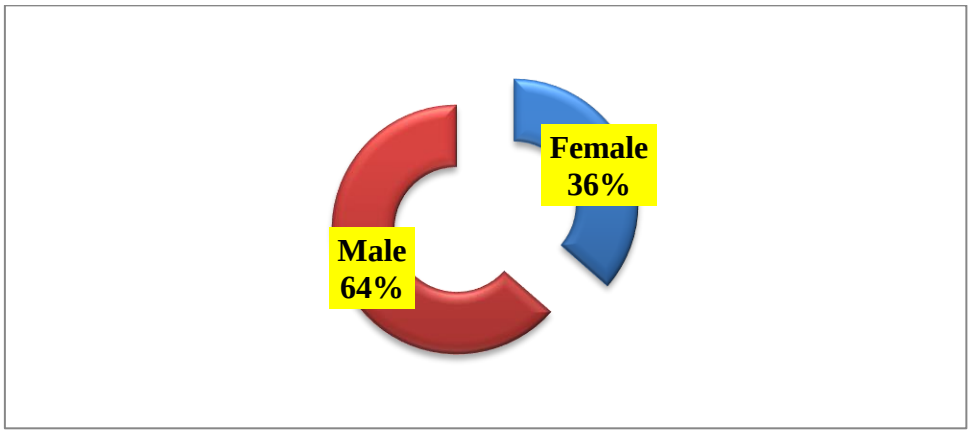

Figure No. 1 Gender wise distribution of the Respondents

Above table and figure describes the gender wise distribution of the respondents from the various engineering colleges under the study. There are 448 (63.54%) respondents who are male and the remaining 257 (36.45%) respondents are female.

2. Designation wise distribution of the respondents

Table No. 2
Designation wise distribution of the Respondents

Designation	Total	Percentage
Assistant Professor	379	53.75%
Associate Professor	258	36.59%
Professor	68	9.64%
Grand Total	**705**	**100.00%**

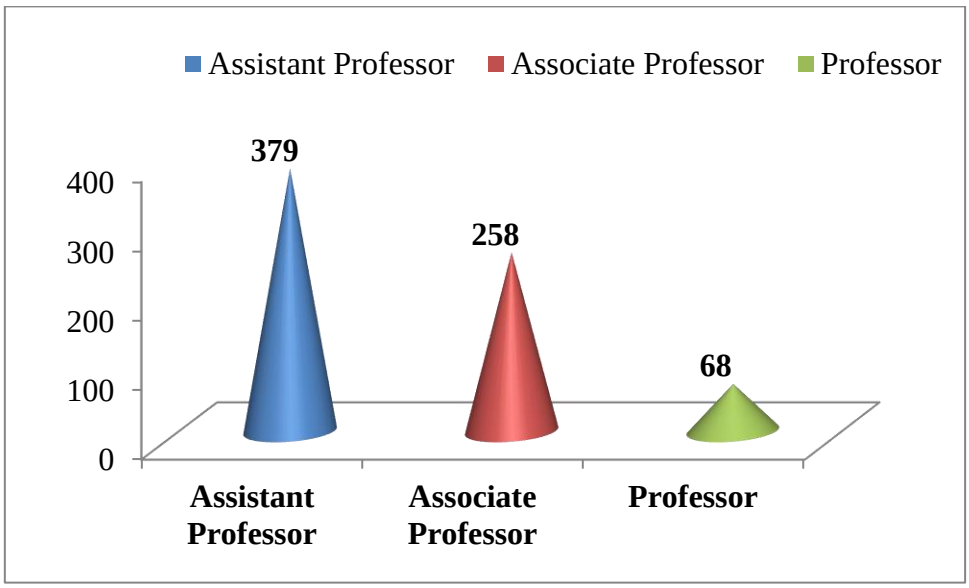

Figure No. 2 Designation wise distribution of the respondents

Above table and figure describes the distribution of the respondents based on their designation. There are 379 (53.75%) respondents who are Assistant Professors and these are the highest number of respondents followed by Associate Professors who are in number of 258 (36.59 %) and lastly followed by Professors with 68 (9.64%) respondents.

3. Branch wise distribution of the respondents

Table No. 3
Branch wise distribution of the Respondents

Branch	Count	Percentage
CIV	126	17.87%
CSE	151	21.41%
ECE	143	20.28%
EEE	128	18.15%
IT	28	3.97%
MEC	129	18.29%
Total	**705**	**100.00%**

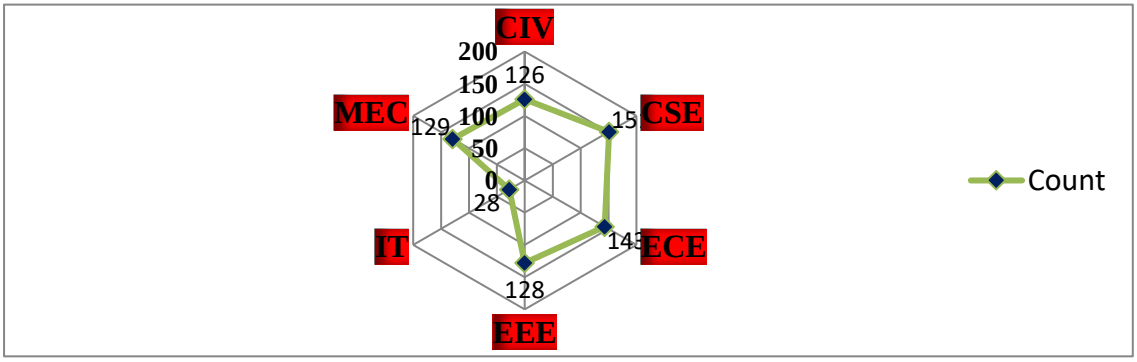

Figure No. 3 Branch wise distribution of the respondents

Above table and figure describes the Branch wise distribution of the respondents. Out of the total 705 respondents, there are 151 (21.41%) from CSE branch, 143 (20.28%) from ECE branch, 129 (18.29%) respondents from MEC branch, 128 (18.15%) from EEE branch, 126 (17.87%) respondents from CIVIL branch and finally 28 (3.97%) from IT branch

4. Frequency of Library Visit by the respondents

Table No. 4
Frequency of Library Visit by the Respondents

Frequency of Visit	Count	Percentage
Daily	259	36.73%
Once in a Week	96	13.61%
Twice in a Week	65	9.21%
Thrice in a Week	54	7.65%
Fortnightly	141	20%
Once in a Month	69	9.78%
Occasionally	21	2.97%
Grand Total	**705**	**100.00%**

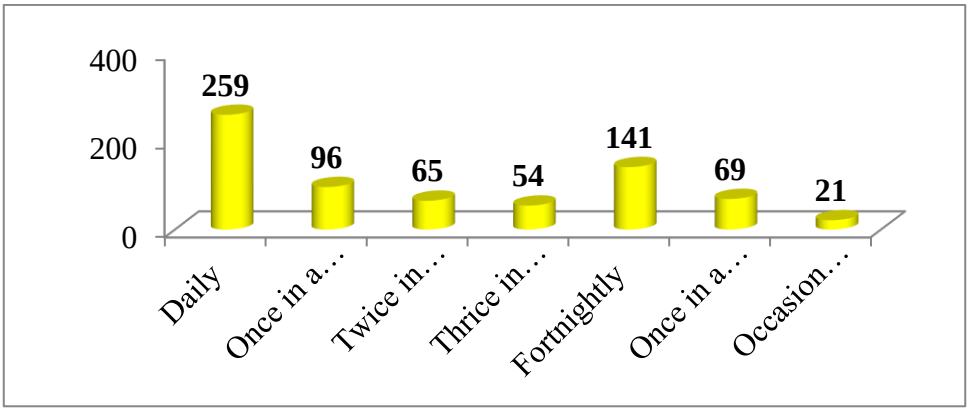

Figure No. 4 Frequency of Library Visit by the respondents

Above table and figure describes the frequency of library visit by the respondents. There are 259 (36.73%) respondents who visit the library on a daily basis. 141 (20%) visit the library every fortnight, 96 (13.61%) respondents visit Once in a Week, 69 (9.78%) respondents visit Once in a Month, 65 (9.21%) respondents visit Twice in a Week, 54 (7.65%) respondents visit Thrice in a Week and 21 (2.97%) respondents visit the library Occasionally.

5. Convenience of the Library Working Hours

Table No. 5
Library has Convenient Working Hours

Convenience of Library Working Hours	Count	Percentage
No	74	10.49%
Yes	631	89.50%
Total	**705**	**100.00%**

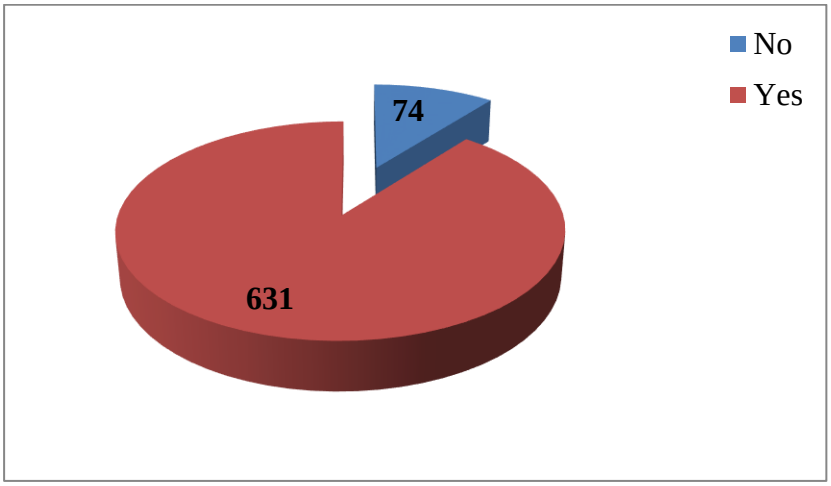

Figure No. 5 Convenience of the Library Working Hours

Above table and figure describes the respondents' response about the convenience of the Library Working hours. There are 631 (89.50%) respondents who feel that the library had convenient working hours and 74 (10.49%) respondents feel that the library doesn't have convenient working hours.

6. Purpose of Visiting the Library

Table No.6
Purpose of Visiting the Library

Purpose		Assistant Professor	Associate Professor	Professor	Chi-Square Value
For Borrowing Books	Yes	281(39.86)	216(30.64)	62(8.79)	15.051
	No	98(13.90)	42(5.96)	6(0.85)	
For Reference Books	Yes	286(40.57)	197(27.94)	53(7.52)	0.219
	No	93(13.19)	61(8.65)	15(2.13)	
For Preparing Teaching Notes	Yes	285(40.43)	147(20.85)	41(5.82)	24.659
	No	94(13.33)	111(15.74)	27(3.83)	
For Use of E-Resources	Yes	217(30.78)	160(22.70)	45(6.38)	2.698
	No	162(22.98)	98(13.90)	23(3.26)	
For Use of AV Resources	Yes	138(19.57)	88(12.48)	22(3.12)	0.62
	No	241(34.18)	170(24.11)	46(6.52)	
For Project Reports	Yes	180(25.53)	82(11.63)	22(3.12)	17.741
	No	199(28.23)	177(25.11)	45(6.38)	
For Print Publications	Yes	164(23.26)	142(20.14)	36(5.11)	9.101
	No	215(30.50)	116(16.45)	32(4.54)	
For Back Volume of Journals	Yes	107(15.18)	113(16.03)	36(5.11)	25.082
	No	272(38.58)	145(20.57)	32(4.54)	
For Internet Facility	Yes	313(44.40)	227(32.20)	58(8.23)	3.488
	No	66(9.36)	31(4.40)	10(8.23)	
For News Paper	Yes	204(28.94)	108(15.32)	192.70)	19.742
	No	175(24.82)	150(21.28)	49(6.95)	
For Refer Govt. Publications	Yes	44(6.24)	31(4.40)	14(1.99)	4.35
	No	335(47.52)	227(32.20)	54(7.66)	
For Inter Library Loan	Yes	16(2.27)	5(0.71)	4(0.57)	3.541
	No	363(51.49)	253(35.89)	64(9.08)	

Above table describes the Purpose of Library Visit. It is evident that 281 (39.86%) Assistant Professors, 216 (30.64%) Associate Professors and 62 (8.79%) Professors visit the Library for Borrowing Books while 98 (13.90%) Assistant Professors and 42 (5.96%) Associate Professors are and 6 (0.85%) Professors are not for availing this facility. 286 (40.57%) Assistant Professors, 197 (27.94%) Associate Professors and 53 (7.53%) Professors visit the Library for Reference Books while 93 (13.19%) Assistant Professors and 61 (8.65%) Associate Professors are not for availing this facility. 285 (40.43%) Assistant Professors, 147 (21.85%) Associate Professors and 41 (5.82%) Professors visit the Library for Preparing Teaching Notes while 111 (15.74%) Associate Professors and 94 (13.33%) Assistant Professors are not for availing this facility. 217 (30.78%) Assistant Professors, 160 (22.70%) Associate Professors and 45 (6.38%) Professors visit the Library for Using the E-resources while 162 (22.98%) Assistant Professors and 98 (13.90%) Associate Professors are not for availing this facility. 138 (19.57%) Assistant Professors and 88 (12.48%) Associate

Professors visit the Library for Using the AV Resources while 241 (34.33%) Assistant Professors, 170 (24.11%) Associate Professors and 45 (6.38%) Professors are not for availing this facility. 180 (25.53%) Assistant Professors and 82 (11.63%) Associate Professors visit the Library for Referring Project Reports while 199 (28.23%) Assistant Professors, 177 (25.11%) Associate Professors and 45 (6.38%) Professors are not for availing this facility. 164 (23.26%) Assistant Professors, 142 (20.14%) Associate Professors and 36 (5.11%) Professors visit the Library for Referring Print Publications while 215 (30.503%) Assistant Professors and 116 (16.45%) Associate Professors are not for availing this facility.

113 (16.03%) Associate Professors and 107 (15.18%) Assistant Professors visit the Library for Back Volume Journals while 272 (38.58%) Assistant Professors and 145 (20.57%) Associate Professors are not for availing this facility. 313 (44.40%) Assistant Professors, 227 (32.20%) Associate Professors and 58 (8.23%) Professors visit the Library for availing Internet Facility while 66 (9.36%) Assistant Professors are not for availing this facility. 204 (29.946%) Assistant Professors and 108 (15.32%) Associate Professors visit the Library for Reading Newspapers while 175 (24.82%) Assistant Professors and 150 (21.28%) Associate Professors are not for availing this facility. 44 (6.24%) Assistant Professors visit the Library for Referring Government Publications while 335 (47.52%) Assistant Professors and 227 (32.20%) Associate Professors are not for availing this facility. Only 16 (2.27%) Assistant Professors visit the Library for Inter Library Loan while 363 (51.49%) Assistant Professors, 253 (35.89%) Associate Professors and 64 (9.08%) Professors are not availing this facility.

7. Usage of the Electronic Resources

Table No. 7
Usage of the Electronic Resources

Electronic Resources		Assistant Professor	Associate Professor	Professor	Chi-Square Value
IEEE	Yes	372(52.77)	255(36.17)	68(9.65)	1.597
	No	7(0.99)	3(0.43)	0	
ASCE	Yes	186(26.38)	198(28.19)	67(9.50)	89.98
	No	193(27.38)	60(8.51)	1(0.14)	
ASME	Yes	173(24.54)	188(26.67)	67(9.50)	92.817
	No	206(29.22)	70(9.93)	1(0.14)	
ASTM	Yes	158(22.41)	182(25.82)	68(9.65)	107.204
	No	221(31.35)	76(10.78)	0	
Science Direct	Yes	176(24.96)	198(28.09)	68(9.65)	104.405
	No	202(28.65)	60(8.51)	0	
EBSCO	Yes	176(34.95)	157(22.27)	60(8.51)	45.113
	No	203(28.79)	101(14.33)	8(1.13)	
Springer	Yes	162(22.987)	214(30.35)	68(9.65)	150.645
	No	217(30.78)	44(6.24)	0	
DELNET	Yes	366(51.91)	236(33.48)	67(9.50)	39.685
	No	113(16.03)	22(3.12)	1(0.14)	
Emerald	Yes	119(16.88)	142(20.14)	58(8.23)	83.657
	No	259(36.74)	114(16.17)	10(1.42)	
UGC Infonet	Yes	156(22.13)	185(26.24)	61(8.65)	91.244
	No	223(31.63)	73(10.35)	7(0.99)	
Scopus	Yes	157(22.27)	205(29.08)	62(8.79)	122.865
	No	222(31.49)	53(7.52)	6(0.85)	
CMIE Prowess	Yes	83(11.77)	149(21.13)	55(7.80)	131.521
	No	295(41.84)	109(15.46)	13(1.84)	
Oxford University Publications	Yes	161(22.84)	212(30.07)	68(9.65)	147.528
	No	217(30.78)	46(6.52)	0	
Mc Graw Hill Access Engg	Yes	156(22.13)	206(29.22)	68(9.65)	143.946
	No	222(31.49)	52(7.38)	0	
NPTEL Videos	Yes	257(36.45)	239(33.90)	68(9.65)	77.944
	No	122(17.30)	19(2.70)	0	
Ebrary	Yes	115(16.31)	145(20.57)	45(6.38)	57.915
	No	264(37.45)	113(16.03)	23(3.26)	

Above table describes the association between the Designation wise the usage of the Electronic Resources. From the table it is observed that 372 (52.85%) Assistant Professors, 255 (36.17%) Associate Professors and 68 (9.85%) Professors are using the IEEE resource

while only 7 (0.99%) respondents are not using this resource from the library. 198 (28.19%) Associate Professors, 183 (26.38%) Assistant Professors and 60 (8.51%) Professors are using the ASCE resource while 193 (27.38%) Assistant Professors are not using this resource from the library. 188 (26.67%) Associate Professors, 173 (24.54%) Assistant Professors and 67 (9.50%) Professors are using the ASME resource while 205 (29.22%) Assistant Professors and 70 (9.93%) Associate Professors are not using this resource from the library. 181 (25.82%) Associate Professors, 158 (22.41%) Assistant Professors and 68 (9.65%) Professors are using the ASTM resource while 221 (31.35%) Assistant Professors and 76 (10.78%) Associate Professors and no Professor are not availing this resource from the library. 198 (27.92%) Associate Professors, 176 (24.96%) Assistant Professors and 68 (9.69%) Professors are using the Science Direct resource while 200 (28.49%) Assistant Professors are not using this resource from the library. 175 (24.96%) Assistant Professors, 157 (22.27%) Associate Professors and 60 (8.51%) Professors are using the EBSCO resource while 203 (28.79%) Assistant Professors and 101 (14.33%) Associate Professors are not availing this resource from the library. 214 (30.34%) Associate Professors, 162 (22.98%) Assistant Professors and 68 (9.65%) Professors are using the Springer resource while 217 (30.78%) Assistant Professors and 44 (6.24%) Associate Professors are not using this resource from the library. 266 (51.91%) Assistant Professors, 236 (33.48%) Associate Professors and 67 (9.50%) Professors are using the DELNET resource while 112 (15.95%) Assistant Professors are not using this resource from the library. 142 (20.14%) Associate Professors, 119 (16.88%) Assistant Professors and 58 (8.23%) Professors are using the Emerald resource while 259 (36.74%) Assistant Professors and 114 (16.17%) Associate Professors are not using this resource from the library. 185 (26.24%) Associate Professors, 156 (22.13%) Assistant Professors and 61 (8.65%) Professors are using the UGC Infonet resource while 223 (31.63%) Assistant Professors and 73 (10.35%) Associate Professors are not availing this resource from the library. 205 (29.08%) Associate Professors, 157 (22.27%) Assistant Professors and 62 (8.79%) Professors are using the Scopus resource while 222 (31.49%) Assistant Professors and 53 (7.52%) Associate Professors are not using this resource from the library. 149 (21.13%) Associate Professors, 83 (11.77%) Assistant Professors and 53 (7.52%) Professors are using the CMIE Prowess resource while 295 (42.84%) Assistant Professors, 109 (15.46%) Associate Professors and 13 (1.84%) Professors are not availing this resource from the library. 212 (30.07 %) Associate Professors, 161 (22.84%) Assistant Professors and 68 (9.65%) Professors are using the Oxford University Publications resource while 217 (30.78 %) Assistant Professors and 46 (6.52%) Associate Professors are not using this

resource from the library. 206 (29.22%) Associate Professors, 156 (22.13%) Assistant Professors and 68 (9.65%) Professors are using the Mc Graw Hill Access Engg resource while 222 (31.49%) Assistant Professors and 52 (7.38%) Associate Professors are not using this resource from the library. 257 (36.45%) Assistant Professors, 239 (33.90%) Associate Professors and 68 (9.65%) Professors are using the NPTEL Videos resource while 122 (17.30%) Assistant Professors are not using this resource from the library. 145 (20.57%) Associate Professors, 115 (16.31%) Assistant Professors and 45 (6.38%) Professors are using the Ebrary resource while 264 (37.45%) Assistant Professors, 113 (16.13%) Associate Professors and 23 (3.26%) Professors are not using this resource from the library. Ebrary resource is the least used by the Professors when compared to the other available resources in the college Library.

8. Satisfaction Levels on the Usage of the Electronic Resources

Table No. 8
Satisfaction Levels on the Usage of the Electronic Resources

Electronic Resources	1	2	3	4	5	Chi-Square Value
IEEE	8(1.13)	3(0.43)	191(27.09)	172(24.40)	331(46.95)	2040.499 DF=60, P-0.000
ASCE	257(36.45)	8(1.13)	106(15.04)	173(24.54)	161(22.84)	
ASME	278(39.43)	3(0.43)	91(12.91)	179(25.39)	154(21.84)	
ASTM	295(41.84)	8(1.13)	121(17.16)	199(28.23)	82(11.63)\	
Science Direct	263(37.30)	3(0.43)	168(23.83)	149(21.13)	122(17.30)\	
EBSCO	312(44.26)	1(0.14)	116(16.45)	122(17.30)	154(21.84)	
Springer	261(37.02)	5(0.71)	195(27.66)	159(22.55)	83(11.77)	
DELNET	138(19.57)	2(0.28)	85(12.06)	336(47.66)	144(20.43)	
Emerald	380(53.90)	8(1.13)	175(24.82)	125(17.73)	17(2.41)	
UGC Infonet	304(43.12)	7(0.99)	112(15.89)	197(27.94)	85(12.06)	
Scopus	283(40.14)	18(2.55)	179(25.39)	160(22.70)	65(9.22)	
CMIE Prowess	419(59.43)	11(1.56)	119(16.88)	145(20.57)	11(1.56)	
Oxford University	264(37.45)	21(2.98)	149(21.13)	202(28.68)	69(9.79)	
Mc Graw Hill Access	276(39.15)	3(0.43)	174(24.68)	220(31.21)	32(4.54)	
NPTEL Videos	140(19.86)	1(0.14)	86(12.20)	205(29.08)	273(38.72)	
Ebrary	399(56.60)	11(1.56)	88(12.48)	110(15.60)	97(13.76)	

* 1- Not availing the facility, 2-Dissatisfied, 3-Neutral, 4-Satisfied, 5-Highly Satisfied.

Above table describes the association between the designation and the satisfaction Levels on the usage of electronic resources. From the table it is observed that 331 (46.95%) are highly satisfied, 191 (27.09%) respondents are Neutral, 172 (24.54%) respondents are Satisfied with the IEEE facility while 8 (1.13%) are not availing the facility. With ASCE facility, 173 (24.54%) respondents are Satisfied, 161 (22.84%) are Highly Satisfied and 257 (36.45%) are not availing the facility. With ASME facility, 154 (21.84%) are Highly Satisfied and 278 (39.43%) are not availing the facility. With ASTM facility 199 (28.23%) are Satisfied while 295 (41.84%) are not availing the facility. 168 (23.83%) are Neutral with Science Direct facility, 149 (21.13%) are satisfied and 263 (37.33%) are Not Availing the Facility. 154 (21.84%) are highly satisfied with EBSCO facility while 312 (44.26%) are not availing the facility. With Springer facility 195 (27.66%) are Neutral, 159 (22.55%) are Satisfied and 261 (37.02%) are not availing the facility. 336 (47.66%) are satisfied with DELNET facility and 144 (20.43%) are highly satisfied. With UGC Info net, 197 (27.94%) are satisfied while 304 (43.12%) are not availing the facility. 179 (25.39%) are Neutral with Scopus facility while 283 (40.14%) are not availing the facility. 419 (59.43%) are not availing the facility of CMIE Prowess. With Oxford University Publications, 202 (28.68%) are satisfied, 149 (21.13%) are Neutral and 264 (37.45%) are not availing the facility. 220 (31.20%) are satisfied with Mc Graw Hill Access Engg facility while 174 (24.68%) are Neutral and 276 (39.2%) are not availing the facility. 273 (38.72%) are highly satisfied with NPTEL Videos and 205 (29.08%) are satisfied. 399 (56.7%) are not availing the facility of Ebrary while 110 (15.60%) are satisfied.

FINDINGS AND CONCLUSIONS

1. Gender wise distribution of the Respondents

Among the gender wise distribution of the faculty members, 448 (63.54%) majority of respondents are male and 257 (36.45%) respondents are female.

2. Designation wise distribution of the respondents

Designation wise distribution of the respondents, 379 (53.75%) are Assistant Professors which are the highest number of respondents followed by 258 (36.59%) Associate Professors and 68 (9.64%) Professors.

3. Branch wise distribution of the respondents

Branch wise the Branch wise distribution of the respondents. Out of the total 705 respondents, there are 151 (21.41%) from CSE branch, 143 (20.28%) from ECE branch, 129

(18.29%) respondents from MEC branch, 128 (18.15%) from EEE branch, 126 (17.87%) respondents from CIVIL branch and finally 28 (3.97%) from IT branch.

4. Frequency of Library Visit by the respondents

Frequency of library visit by the respondents 259 (36.73%) respondents who visit the library on a daily basis. 141 (20%) visit the library every fortnight, 96 (13.61%) respondents visit Once in a Week, 69 (9.78%) respondents visit Once in a Month, 65 (9.21%) respondents visit Twice in a Week, 54 (7.65%) respondents visit Thrice in a Week and 21 (2.97%) respondents visit the library Occasionally.

5. Convenience of the Library Working Hours

Convenience of the Library Working hours are 631 (89.50%) respondents who feel that the library had convenient working hours and 74 (10.49%) respondents feel that the library doesn't have convenient working hours.

6. Purpose of Library Visit the library

- 281 (39.86%) Assistant Professors, 216 (30.64%) Associate Professors and 62 (8.79%) Professors visit the Library for Borrowing Books.
- 286 (40.57%) Assistant Professors, 197 (27.94%) Associate Professors and 53 (7.53%) Professors visit the Library for Reference Books.
- 285 (40.43%) Assistant Professors, 147 (21.85%) Associate Professors and 41 (5.82%) Professors visit the Library for Preparing Teaching Notes.
- 217 (30.78%) Assistant Professors, 160 (22.70%) Associate Professors and 45 (6.38%) Professors visit the Library for Using the E-resources.
- 241 (34.33%) Assistant Professors, 170 (24.11%) Associate Professors and 45 (6.38%) Professors are not using the AV Resources.
- Majority of 199 (28.23%) Assistant Professors, 177 (25.11%) Associate Professors and 45 (6.38%) Professors are not visit the Library for Referring Project Reports.
- 164 (23.26%) Assistant Professors, 142 (20.14%) Associate Professors visit the Library for Referring Print Publications while 215 (30.503%) Assistant Professors and 116 (16.45%) Associate Professors are not for availing this facility.
- 113 (16.03%) Associate Professors and 107 (15.18%) Assistant Professors visit the Library for Back Volume Journals while 272 (38.58%) Assistant Professors and 145 (20.57%) Associate Professors are not for availing this facility.
- 313 (44.40%) Assistant Professors, 227 (32.20%) Associate Professors and 58 (8.23%) Professors visit the Library for availing Internet Facility.

- 204 (29.946%) Assistant Professors and 108 (15.32%) Associate Professors visit the Library for Reading Newspapers while 175 (24.82%) Assistant Professors and 150 (21.28%) Associate Professors are not for availing this facility.
- 335 (47.52%) Assistant Professors and 227 (32.20%) Associate Professors are not for Referring Government Publications.
- 363 (51.49%) Assistant Professors, 253 (35.89%) Associate Professors and 64 (9.08%) Professors are not visit the Library for Inter Library Loan facility.

7. Usage of the Electronic Resources

- 372 (52.85%) Assistant Professors, 255 (36.17%) Associate Professors and 68 (9.85%) Professors are using the IEEE resource.
- 198 (28.19%) Associate Professors, 183 (26.38%) Assistant Professors and 60 (8.51%) Professors are using the ASCE resource while 193 (27.38%) Assistant Professors are not using this resource from the library.
- 188 (26.67%) Associate Professors, 173 (24.54%) Assistant Professors and 67 (9.50%) Professors are using the ASME resource while 205 (29.22%) Assistant Professors are not using this resource from the library.
- 181 (25.82%) Associate Professors, 158 (22.41%) are using the ASTM resource while 221 (31.35%) Assistant Professors are not availing this resource from the library.
- 198 (27.92%) Associate Professors, 176 (24.96%) are using the Science Direct resource while 200 (28.49%) Assistant Professors are not using this resource from the library.
- 175 (24.96%) Assistant Professors, 157 (22.27%) Associate Professors are using the EBSCO resource while 203 (28.79%) Assistant Professors and 101 (14.33%) Associate Professors are not availing this resource from the library.
- 214 (30.34%) Associate Professors, 162 (22.98%) Assistant Professors are using the Springer resource while 217 (30.78%) Assistant Professors are not using this resource from the library.
- 266 (51.91%) Assistant Professors, 236 (33.48%) Associate Professors are using the DELNET resource while 112 (15.95%) Assistant Professors are not using this resource from the library.
- 142 (20.14%) Associate Professors, 119 (16.88%) are using the Emerald resource while 259 (36.74%) Assistant Professors and 114 (16.17%) Associate Professors are not using this resource from the library.

- 185 (26.24%) Associate Professors, 156 (22.13%) Assistant Professors are using the UGC Infonet resource while 223 (31.63%) Assistant Professors are not availing this resource from the library.
- 205 (29.08%) Associate Professors, 157 (22.27%) Assistant Professors are using the Scopus resource while 222 (31.49%) Assistant Professors and 53 (7.52%) Associate Professors are not using this resource from the library.
- 149 (21.13%) Associate Professors, 83 (11.77%) Assistant Professors are using the CMIE Prowess resource while 295 (42.84%) Assistant Professors, 109 (15.46%) Associate Professors are not availing this resource from the library.
- 212 (30.07 %) Associate Professors, 161 (22.84%) Assistant Professors are using the Oxford University Publications resource while 217 (30.78 %) Assistant Professors and 46 (6.52%) Associate Professors are not using this resource from the library.
- 206 (29.22%) Associate Professors, 156 (22.13%) Assistant Professors are using the Mc Graw Hill Access Engineering resource while 222 (31.49%) Assistant Professors are not using this resource from the library.
- 257 (36.45%) Assistant Professors, 239 (33.90%) Associate Professors are using the NPTEL Videos resource while 122 (17.30%) Assistant Professors are not using this resource from the library.
- 145 (20.57%) Associate Professors, 115 (16.31%) Assistant Professors are using the Ebrary resource while 264 (37.45%) Assistant Professors, 113 (16.13%) Associate Professors are not using this resource from the library.

8. Satisfaction Levels on the Usage of the Electronic Resources

- 331 (46.95%) are highly satisfied, 191 (27.09%) respondents are Neutral, 172 (24.54%) respondents are Satisfied with the IEEE facility.
- 173 (24.54%) respondents are Satisfied, 161 (22.84%) are Highly Satisfied and 257 (36.45%) are not availing the ASCE facility.
- 154 (21.84%) are Highly Satisfied and 278 (39.43%) are not availing the ASME facility.
- 199 (28.23%) are Satisfied while 295 (41.84%) are not availing the ASTM facility.
- 168 (23.83%) are Neutral with Science Direct facility, 149 (21.13%) are satisfied and 263 (37.33%) are Not Availing the facility.

- 154 (21.84%) are highly satisfied with EBSCO facility while 312 (44.26%) are not availing the facility.
- 195 (27.66%) are Neutral, 159 (22.55%) are Satisfied and 261 (37.02%) are not availing the Springer facility.
- 336 (47.66%) are satisfied with DELNET facility and 144 (20.43%) are highly satisfied.
- 197 (27.94%) are satisfied while 304 (43.12%) are not availing the UGC Info net facility.
- 179 (25.39%) are Neutral with Scopus facility while 283 (40.14%) are not availing the facility.
- 419 (59.43%) are not availing the facility of CMIE Prowess.
- 202 (28.68%) are satisfied, 149 (21.13%) are Neutral and 264 (37.45%) are not availing the Oxford University Publications facility.
- 220 (31.20%) are satisfied with Mc Graw Hill Access Engineering facility while 174 (24.68%) are Neutral and 276 (39.2%) are not availing the facility.
- 273 (38.72%) are highly satisfied with NPTEL Videos and 205 (29.08%) are satisfied.
- 399 (56.7%) are not availing the facility of Ebrary while 110 (15.60%) are satisfied.

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