

# STATUS OF ICT INFRASTRUCTURE AND SERVICES OF LIBRARIES OF SRMSWCET BAREILLY AND DBITE DEHRADUN: A COMPARATIVE STUDY

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**Abstract** *This paper highlights the results of a research study conducted to compare the current status, performance, resources and services provided by the libraries of selected Engineering College of Bareilly region of Uttar Pradesh and Dehradun region of Uttarakhand. The main purpose of the study was to know the state of art-infrastructure, current ICT- infrastructure, IT based services, Internet facility, staff strength, collection, services and present scenario of engineering college libraries. Some of the interesting findings have come out and some important and valuable suggestions have also been given to improve all the aspects of libraries in this challenging era of digital information and services.*

**Keywords:** *Library Services, Library Staff, Library Collection, ICT Infrastructure, Digital Information, E-Resources*

## INTRODUCTION

Library as knowledge centre is termed as heart of any institution or organization for the dissemination of information to the respective patrons or knowledge society. In another words, library is the knowledge hub, where students, teachers, researchers, scientists and others can explore the vast amount of accumulated information resources.

Traditionally, library is a large collection of books or information resources or a house of collected information. Today, the term can refer to any collection, including digital or electronic resources and services. The collections can be of materials such as print, electronic, audio and visuals in numerous formats including maps and documents, microfilm, microfiche, cassettes, videotapes, CD-ROMs, DVDs, video games, e-journals, e-books and audio books (Wikipedia, 2015). Library is the soul of any learning institution, which is pivot of teaching-learning process. Library plays an important role in providing information services to the students, staff, teachers and others. In fact, the libraries are an integral part of teaching-learning process in the academic institutions for accessing and retrieving of information. The library environment is highly workable and excepted as being well maintained. The core motto of

the academic library is to provide services to support the educational, cultural, economic and technological endeavor of users of its parent institution.

Now, the advent, rapid succession and subsequent widespread use of Information Technologies have completely revolutionized the library system and services. The twenty-first century is known as knowledge society, which is possible due to the revolution in the ICT. In e-era, the world becomes a global village, gap between the information generation and information user is minimizing day by day. The Internet provides an ocean of information to the society through various search engines, free and paid e-journals and e-books, open access institutional repositories, open courseware, open software, electronic theses and dissertations (ETD), etc.

The continuing new developments in information and communication technology (ICT) is bringing us to a new library era that nobody could have imagined a few decades ago. Engineering education system is totally changed due to technological advancement. Libraries of engineering educational institutions are also influenced by the ICT. Today, engineers require not only adequate technological ability and problem solving skills but also the skills like cooperation, communication and presentation skill, business ethics and interpersonal relationship. Hence, excellent

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engineering colleges are essential to prepare engineers with good knowledge and skills. Teachers, laboratories and libraries are important components in imparting effective engineering education to them.

## ENGINEERING EDUCATION AND COLLEGES

Engineering education is the activity of teaching knowledge and principles related to the professional practice of engineering. It includes the initial education for becoming an engineer and any advanced education and specializations (Wikipedia, 2015). The place where engineering education (theory and practice) is provided to the students is known as engineering college or institute. Large number of engineering colleges are establishing in Uttar Pradesh and Uttarakhand states of India during the last 10 years. For the present study, one college from each Uttar Pradesh and Uttarakhand have been chosen for comparative studies of their libraries.

## ENGINEERING COLLEGE LIBRARY

The library of an engineering college plays a significant role in technical education system. The engineering college library like any other library affiliated to an institution contributes primarily to the teaching and learning process by providing different information and learning resources in print and electronic mode to the patrons or engineers for their successful persuasion of the course programmes offered by the institution. An engineering college provides technical education and its important role expected in growth and development of the country, thus, library of the engineering institute must have good collection of books and other information resources. The main objective of an engineering college library is to assist engineering professionals in enhancing and updating their knowledge and skills and to provide them information regarding new innovations, views, theories, engineering education and research.

## LITERATURE REVIEW

The main function of citing review of literature is to provide base for developing a frame work, to suggest operational definition of the concepts and finally to work out a basis for interpretation of findings. Keeping in view the objectives of the study, the work done by the previous researchers is presented as under:

In a study at engineering college library, Reddy and Kumar (2014) observed that 69.35% of the respondents were using library services through mobile phones from campus as well as outside the library premises, out of which, 45.17% of the

respondents opined that provision of library services through mobile phones will be time saving for them and will help to keep them informed updated about library and library services even when they are outside the campus. While comparing the current status of automation in the libraries of Central Universities of Uttar Pradesh, Verma and Yadav (2014) found that among four responded central university libraries, only two were automated and one university library was in under process and the main problem, which was faced by the libraries, was the shortage of budget and also there was no separate budget provision for the library. In a study, Halder and Chandra (2013) found that more than 33% of the users were using textbooks followed by reference books (20%), journals (15.48%) and more than 10% of the users were using CD-ROMs for their desired information, while most of the respondents from responded colleges opined that Internet can never replace traditional library resources, services and facilities. While studying the libraries of education colleges in Dehradun district of Uttarakhand, Bhanu Partap and Joshi (2013) observed that almost all the libraries had very poor ICT infrastructure and no college had accorded faculty status to the librarian and also did not has sufficient staff for providing good library services. Majority of the engineering college libraries of Sonapat District of Haryana implemented automation to improve the quality of services, while LAN networking facility was available in all the engineering college libraries, however, half of the responded libraries were using WiFi media for their networking (Meher Singh, 2013). During the study of university libraries of Rajasthan, Tiwari and Sahoo (2013) revealed that Information and Communication Technology (ICT) activities were at under developing stage, while lack of basic management, proper planning and frequently change in ICT were the basic hurdles for successful implementation and development of ICT. In engineering college libraries affiliated with Sri Venkateswara University, Andhra Pradesh, more than 82% respondents were satisfied with the book and periodical collections, reference services, Internet facility and efficiency and behavior of the library staff members (Balu and Reddy, 2011). Mulla, Chandrashekara and Talawar (2010) conducted a study in libraries of engineering colleges in Karnataka and observed that fourteen libraries were lacking in computer facilities, however, management of six colleges was not interested to spend amount for automation of their libraries. In the study of college of education libraries in three districts of Punjab, Bhanu Partap and Joshi (2009) found that collection size of the libraries varied considerably and comparatively older colleges had large collections, while more than 83% responded libraries followed DDC scheme for classification of documents and rest of the libraries arranged the documents by their respective subjects and also suggested that the user education program must be introduced and stressed must be given to increase the range and depth of collection and services.

## SRMSWCET-BAREILLY

Shri Ram Murti Smarak Women's College of Engineering and Technology, Bareilly is a self financed institute managed and run by SRMS Trust, Bareilly. It was established in 2008 and the college has demonstrated perennial evidence of merit and quality by achieving a respectable position among all parallel private and Government colleges of Uttar Pradesh Technical University, Lucknow. The SRMS is a public charitable trust, which was established in the year 1990, is a living tribute to the memory of veteran freedom fighter, true Gandhian, ex-parliamentarian, ex-minister of U.P., Late Shri Ram Murti Ji. SRMS trust is running lot of educational institutions in Bareilly and Lucknow, Uttar Pradesh and has a very respectable position in the society for their social beneficiary works.

## DBITE-DEHRADUN

Dev Bhoomi Institute of Technology for Women (DBITW) was established in the year 2008 under Uttarakhand Uthan Samiti, a non-profit society and later on (2012), it was renamed and converted as Dev Bhoomi Institute of Technology and Engineering (DBITE), which is a self-financed institute and affiliated to Uttarakhand Technical University, Dehradun and approved by All India Council for Technical Education (AICTE), Ministry of HRD, Government of India. DBITE offers the engineering and management courses, i.e., B. Tech. (ME/CSE/ECE/EEE) and MBA.

## STATEMENT OF THE PROBLEM

There are a large number of engineering colleges in Uttar Pradesh and Uttarakhand state of India. For current study, one college from Uttar Pradesh affiliated with Uttar Pradesh Technical University (UPTU), Lucknow and one college from Uttarakhand affiliated with Uttarakhand Technical University (UKTU), Dehradun were randomly selected, which are reputed institutions in their regions. These colleges differing in their infrastructural facilities and user services are funded and run by private governing bodies. These colleges offer B. Tech. program for engineering education and MBA for management courses. A study on status of their libraries could reveal some interesting facts. Therefore, a comparative study of each engineering college library from Bareilly District of Uttar Pradesh and Dehradun District of Uttarakhand was planned to know the current status of libraries and their preparedness for meeting the growing expectations of their user community in this electronic era.

## OBJECTIVES OF THE STUDY

The study was intended to know the current status of randomly selected two engineering college libraries in Bareilly (Uttar

Pradesh) and Dehradun (Uttarakhand) districts. The specific objectives of the study are given as under:

1. To know the collection and collection development policy.
2. To ascertain the various types of source and study material available in libraries of engineering colleges.
3. To know the automation status of library systems and services.
4. To know the types of service provided by the libraries.
5. To know the availability of physical infrastructure and resources like space, furniture items, budget, etc.
6. To know the staff and staff development policy.
7. To assess the quality and service efficiency of the library in terms of user services.
8. To know the satisfaction level of users towards the provided services.

## SCOPE OF STUDY

The present study was limited to libraries of Shri Ram Murthi Smarak Women's College of Engineering and Technology, Bareilly (UP) and Dev Bhoomi Institute of Technology and Engineering, Dehradun (UK).

## NATURE OF STUDY

The study being empirical in nature was conducted to know the current functioning status of two engineering college libraries in the District of Bareilly (Uttar Pradesh) and Dehradun (Uttarakhand). The functioning status was investigated by surveying the libraries and the results were described with the help of obtained data.

## METHODOLOGY

Since 2005 a large number of new institutions have come up in Uttarakhand and Uttar Pradesh. Some of them are still in the process of developing infrastructure. The present study was conducted during June-July 2015. The questionnaire was administered personally by visiting the two colleges (SRMSWCET-Bareilly and DBITE-Dehradun). In some cases, telephonic conversation was also made for seeking clarifications regarding information.

## DATA ANALYSIS AND FINDINGS

The data collected through well-structured questionnaire were analyzed by using the simple percentage analysis method given in the following sections as under:

**Table 1: Profile of Responding Institutions**

Sr. No.	Name of the Institution	Year of Estb.	Affiliation with	Approved by	Courses Offered	Financial Status
1.	SRMSWCET-Bareilly (UP)	2008	Uttar Pradesh Technical University, Lucknow	AICTE, Govt. of India and Govt. of UP	B. Tech. (CSE, ECE, EE)	Self Finance
2.	DBITE-Dehradun (UK)	Estb. in 2008 as DBITW (Renamed as DBITE in 2012)	Uttarakhand Technical University, Dehradun	AICTE, Govt. of India and Govt. of UK	B. Tech. (CSE, ECE, IT, EE and MBA)	Self Finance

Profiles of responding Institutions are shown in Table 1. Both the responded institutions were established in the year 2008 and approved by All Indian Council for Technical Education (AICTE), Government of India. SRMSWCET, Bareilly is affiliated with Uttar Pradesh Technical University (UPTU), Lucknow and DBITE, Dehradun affiliated with Uttarakhand Technical University (UKTU), Dehradun. Both

of the institutions are offering B. Tech. program in Computer Science Engineering (CSE), Electronic and Communication Engineering (ECE) and Electrical Engineering (EE) branch. In addition, DBITE, Dehradun is also offering B. Tech. in Information Technology (IT) and Master of Business Management (MBA) programme. Both of the institutions are generating their funds themselves.

**Table 2: Profile of Responding Institution's Libraries**

Sr. No.	Name of the Institution	Separate Library Building	Budget Preparation	Total Membership	Library Committee	Alternative Arrangement of Electricity
1.	SRMSWCET-Bareilly (UP)	No	No	570	No	Yes
2.	DBITE-Dehradun (UK)	No	No	625	No	Yes

Table 2 shows the profiles of the responding institution's libraries. It is clear from the above table that both the libraries are situated on one of the floor of the main teaching block of the institution and have no provision of separate building for the library. Besides, there is no separate budget and committee for the library in both the institutions. However,

total membership of the library, which includes students and staffs, is more than 570 in SRMSWCET, Bareilly and more than 625 in DBITE, Dehradun. Out of total sanctioned seats by UKTU, UPTU and AICTE, many of seats in all the branches were vacant in both the institutions. This shows that engineering education is not now a charming sector for young aspirants in this worldwide changing scenario.

**Table 3: Library Staff**

Sr. No.	Name of the Institution	Staff Status					Librarians' Qualification	Faculty Status	Adequacy of Supporting Staff	Satisfaction with Salary, Working Conditions and Status
		Librarian	Asst. Librarian	Library Assistant	Library Restorer	Library Attendant				
1.	SRMSWCET-Bareilly (UP)	1	1	2	3	4	M.Lib., M.Phil. (LIS)	No	Yes	Yes
2.	DBITE-Dehradun (UK)	1	2	1	0	1	M. Lib.	No	Yes	No

Staff status is highlighted in Table 3 and it is clear that both the college libraries have qualified (M. Lib. & Inf. Sc) librarians. SRMSWCET-Bareilly has good number of staff (11) appointed in their library for providing better user services as compared to DBITE-Dehradun library (5). SRMSWCET-Bareilly librarian responded that they have sufficient supporting staff strength and no additional staff is needed in its library. All the staff members were satisfied

with their salary, working conditions, timings, status, etc. On the other hand, DBITE-Dehradun has not appointed sufficient supporting staff members in its library, thus, the librarian reported that 3-4 additional staff members are needed for managing the library efficiently and providing better services to the users. In both the college libraries, librarians have not received the status of faculty.

**Table 4: Print Collection in Libraries**

Sr. No.	Name of the Institution	Books	Journals	Project Reports	Standards	Patents	Magazines	Newspapers
1.	SRMSWCET-Bareilly (UP)	15,753	79	262	0	0	42	10
2.	DBITE-Dehradun (UK)	15627	60	35	0	0	10	08

Table 4 reveals the print collection and collection development in the libraries of respective institutions. It was found that both of the responded institutions' libraries had more than 15, 550 books. SRMSWCET- Bareilly had 79 print journals in its collection, while DBITE-Dehradun has 60 journals in

print form. Besides, SRMSWCET- Bareilly has 262 project reports, 42 magazines and 10 newspapers, while DBITE-Dehradun has 35 project reports, 10 magazines and 8 newspapers in its collection. The analysis shows that library of SRMSWCET- Bareilly was better in collection providing to the users as compared to the library of DBITE- Dehradun.

**Table 5: Electronic Collection in Libraries**

Sr. No.	Name of the Institution	E-Books	E-Journals	CDs/DVDs	Audio Visual	Any Other
1.	SRMSWCET-Bareilly (UP)	56	149 Springer (INDEST)	1,182	NIL	09 Floppies
2.	DBITE-Dehradun (UK)	NIL	DELNET	2,000	NIL	-

The data pertaining to electronic collection in libraries show that the library of SRMSWCET-Bareilly was much better in its electronic resource collection as compared to DBITE-Dehradun library (Table 5). SRMSWCET-Bareilly has 56 e-books, 149 e-journals of Springer subscribing through AICTE-INDEST Consortium, 1,182 CDs/DVDs and nine

Floppies in its collection, while DBITE- Dehradun library has only 2,000 CDs/DVDs along with books and magazines. DBITE- Dehradun has the membership of DELNET in the name of e-journals but not subscribing any e-journal package even not through AICTE- INDEST Consortium and has no e-book collection.

**Table 6: Services Provided by Libraries-I**

Sr. No.	Name of the Institution	Circulation	Reservation	Reference	CAS/SDI	Indexing/ Abstracting	ILL	Reprography	Printouts
1.	SRMSWCET-Bareilly (UP)	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
2.	DBITE-Dehradun (UK)	Yes	Yes	Yes	-	-	Yes	Yes	NIL

Status of routine and essential library services provided by both the responded institutions' libraries are depicted in above Table 6. It was found that almost all the essential library services, *i.e.*, circulation, reservation, reference, Inter-library

Loan (ILL), reprography, CAS/SDI and printouts from computer/Internet are provided by both of the responded institutions' libraries, except CAS/SDI and printout service, which was not provided by DBITE- Dehradun.

**Table 7: Services Provided by Libraries-II**

Sr. No.	Name of the Institution	Opening Hours	Access System	Charging System	Period of Loan	Fine Charges
1.	SRMSWCET-Bareilly (UP)	15	Open	Computerized (by Gurukul Software)	07 Days	Rs. 5/- per day
2.	DBITE-Dehradun (UK)	07	Open	Browne Card	10 Days	Rs. 5/- per day

Table 7 shows the user oriented some essential services provided by both the responded libraries. The library of SRMSWCET- Bareilly was kept open for maximum 15 hours daily for the users, while the library of DBITE-

Dehradun was kept open only for 07 hours daily. Both of the responded libraries were providing open access system for their collection. The library of SRMSWCET- Bareilly was providing circulation services through computerized

system using Gurukul software, whereas, DBITE- Dehradun was using card system, *i.e.*, Browne Card for its circulation services. SRMSWCET- Bareilly library issued books to the

students for seven days and DBITE- Dehradun for 10 days. Besides, both the college libraries used to charge Rs. 5 per book per day on any delay in returning books and other materials back to the library.

**Table 8: Library Automation**

Sr. No.	Name of the Institution	Automation Status	Library Software	Activities/ Modules Implemented	Internet Facility	Services Provided in Automated Environment			
						House Keeping	Circulation	Web based Services	Wi-Fi Service
1.	SRMSWCET-Bareilly (UP)	Yes	Gurukul (Local Made)	Cataloguing and Circulation	Yes	Yes	Yes	-	Yes
2.	DBITE-Dehradun (UK)	Yes	Koha	Cataloguing and Circulation	Yes	No	Yes	No	No

State of library automation has been highlighted in Table 8. Both of the responded engineering institutions' libraries responded that they have automated library services to the users. SRMSWCET- Bareilly was using Gurukul software (Local made software) and DBITE- Dehradun was using

Koha software. Both the college libraries automated their cataloguing and circulation services. Library of SRMSWCET- Bareilly was providing housekeeping, circulation and wi-fi services in electronic environment, whereas, DBITE- Dehradun was providing only circulation services to its user's community.

**Table 9: IT Infrastructure**

Sr. No.	Name of the Institution	Computers	Bar Code Readers	Scanners	Printers	External USBs/Hard Disks
1.	SRMSWCET-Bareilly (UP)	10	04	01	02	NIL
2.	DBITE-Dehradun (UK)	10	05	NIL	01	NIL

Table 9 reveals the current status of Information Technology infrastructure provided by both the responded libraries. Both of the institutions had equal number, *i.e.*, 10 numbers each of computers in their libraries. Besides, SRMSWCET- Bareilly had also four bar code readers, one scanner and two printers in its library, while DBITE- Dehradun had five bar code readers and one printer in its library. In both the libraries, no external USBs or Hard Disks had been provided for data backup.

## MAJOR FINDINGS

Based on the data interpretation or results, some of the major findings are highlighted as follows:

- Both of the institutions had no provision for separate library building.
- There was no provision of library committee in both the Institutions.
- Both the institutions had appointed qualified librarians, *i.e.*, with minimum qualification of M. Lib. & Inf. Sc.

Librarian of SRMSWCET- Bareilly had the additional qualification of M. Phil. in Lib. & Inf. Sc. too.

- SRMSWCET- Bareilly had appointed good number of staff (11) as compared to DBITE- Dehradun (5) in library.
- In both the college libraries, librarians had not been treated as faculty members.
- Both the libraries had more than 15,550 books in their collection including reference books and book bank. SRMSWCET- Bareilly had 79 print journals, 262 project reports, 42 magazines and 10 newspapers in its collection, whereas, DBITE- Dehradun had 60 print journals, 35 project reports, 10 magazines and 8 newspapers.
- Overall, SRMSWCET- Bareilly had strong collection in their library as compared to DBITE- Dehradun.
- SRMSWCET- Bareilly had also strong collection of electronic resources, *i.e.*, 56 e-books, 149 e-journals of Springer subscribing through AICTE-INDEST Consortium, 1182 CDs/DVDs and nine Floppies as

compared to DBITE- Dehradun, which had only 2000 CDs/DVDs accompanied with books and magazines.

- DBITE- Dehradun had no e-journal or e-journal consortium and not subscribed AICTE-INDEST Consortium. Even e-books collection was also not available in the library.
- DBITE- Dehradun had not provided CAS/SDI and printout services to the users.
- SRMSWCET- Bareilly used to open library for maximum 15 hours daily while DBITE- Dehradun library only for seven hours daily.
- Library of SRMSWCET- Bareilly was providing circulation services through computerized system using Gurukul software, whereas, DBITE- Dehradun was using card system, *i.e.*, Browne Card, for its circulation services.
- Both the colleges had equal number (10) of computers in their libraries.
- In both the libraries, no external USBs or Hard Disks was available for data backup.

## SUGGESTIONS

Some of the major recommendations, which emerged out of the study, are listed below:

- It has been seen that there is no provision of budget preparation and library committee in both of the institution's libraries, thus, proper policy for budget preparation should be framed.
- The existing provision of funds for the purchase of quality books and electronic resources are found insufficient, thus, the quantum of financial provision should be increased regularly.
- Proper planning of separate modular library building should be necessary.
- Adequate infrastructure and sufficient basic physical facilities like building location, structure, space allocation, furniture, electricity, drinking water, washroom, telephone, power backup, air-conditioner and other necessary equipments, which help the libraries to provide effective library services to its users, should be looked into.
- The affiliating and recognizing bodies, *i.e.*, AICTE, UPTU and UKTU, Government of concerned states should revise the rules and guidelines for engineering institutions' libraries at regular interval to keep in pace with the changing environment.
- Both the responded institutions had automated their libraries partially, thus, fully computerized libraries with proper and good library management software should be developed for their smooth functioning as

per need of the day.

- It has been observed that library of SRMSWCET- Bareilly was much better in its collection of electronic resources as compared to DBITE- Dehradun library, thus, the management of DBITE- Dehradun should take initiative to improve the electronic resource collection in their library particularly to subscribe the INDEST- AICTE Consortium so that students, teachers and researcher may get benefit.
- Staff motivation and development programs at regular intervals should be organized by the management of respective institutions to inspire and motivate library personnel to provide effective library services.

## CONCLUSION

In this era of digital information, it is essential that engineering institutions' libraries should be ready to take the challenges of changing needs of users. In order to perform its functions satisfactorily, the library as a vital component of the engineering education system needs to be equipped with proper infrastructure, *i.e.*, proper space and furniture, trained staff, appropriate collection of print as well as electronic resources, technological services and application of Information and Communication Technology (ICT). Information and Communication Technologies are increasingly used to collect, store, retrieve and disseminate a great amount of information to help engineering professionals.

This present research work was undertaken to study critically the current status of selected engineering college libraries of Uttar Pradesh and Uttarakhand state of India. The outcome from the study is that the library of SRMSWCET- Bareilly was better in its collection, staff and services provided to the users as compared to the library of DBITE- Dehradun. Based on the findings, some suggestions are being provided so that the responded libraries may upgrade their libraries for better user services in this challenging digital era.

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