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**EVALUATION OF NIRF RANKING PARAMETERS FOR QUALITY  
ENHANCEMENT OF LIBRARIES TO PROVIDE ACCESSIBLE FACILITIES TO  
STUDENTS WITH DISABILITIES**

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**Abstract**

*National Institutional Ranking Framework (NIRF) is evaluating facilities given by higher education institutions to students with disabilities relating to disabled accessible lift or ramp, toilet, walking aid like wheelchair etc. Researchers studied NIRF data of 17 autonomous colleges affiliated to Shivaji University, Kolhapur. Researchers found that 13 colleges are provided more than 80% of the buildings disabled accessible lift or ramp, 15 colleges are provided wheelchair facility and only 9 colleges are provided more than 80% of the buildings accessible toilet facility to students with disabilities. National Education Policy (NEP) 2020 has given more weightage on barrier-free education facilities to all students with disabilities. Libraries should provide accessible lift, ramp, toilet and wheelchair to students with disabilities.*

**Keywords:** NIRF, Libraries, Students with disabilities

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**Introduction:**

Infrastructural facilities in higher education institutions (HEIs) to students with disabilities plays vital role in providing barrier-free, discrimination-free, and equal education facilities to students with disabilities. In 29<sup>th</sup> September, 2015 Ministry of Education, Government of India is established National Institutional Ranking Framework (NIRF) for the purpose of ranking the HEIs in India.

NIRF has five ranking parameters are as follows: (National Institutional Ranking Framework, 2022)

1. Teaching, Learning and Resources (TLR)

2. Research and Professional Practice (RP)
3. Graduation Outcomes (GO)
4. Outreach and Inclusivity (OI)
5. Peer Perception

Parameter number four further divided in following five sub parameters such as:

- 4.1 Percentage of students from other states / countries (Region Diversity RD)
- 4.2 Percentage of women (Women Diversity WD)
- 4.3 Economically and socially challenged students (ESCS)

4.4 Facilities for physically challenged students (PCS)

4.5 Perception ranking (PR)

Parameter number 4.4 further divided in following three questions which are related to infrastructural facilities like accessible lift, ramp, wheelchair and toilet to students with disabilities.

4.4.1 Do your institution buildings have Lifts / Ramps?

4.4.2 Does your institution have provision for walking aids, including wheelchairs and transportation from one building to another for handicapped students?

4.4.3 Do your institution buildings have specially designed toilets for handicapped students?

### Definition:

#### 1. Disability:

“A disability is any condition that makes it more difficult for a person to do certain activities or effectively interact with the world around them (socially or materially)” (Wikipedia, 2022).

### Five Laws of Library Science for Students with Disabilities: (Yadav, Sutar and Lihitkar, 2021)

1. Books are for use of users with disabilities
2. Every user with disabilities his / her book
3. Every book its students with disabilities
4. Save the time of the students with disabilities
5. The library as a growing organism

### The Objective of the Study:

To evaluate accessible facilities provided to students with disabilities in autonomous colleges and institutes.

### Hypothesis of the Study:

Accessible facilities provided to students with disabilities in autonomous colleges and institutes are valuable.

### Limitations of the Study:

1. Researcher has selected 17 autonomous colleges and institutes affiliated to Shivaji University Kolhapur.
2. Only NIRF facilities for physically challenged students – three questions are analyzed.

### Library Building Accessible Infrastructural Facilities – Dimensions:

(Diversity and Equal Opportunity Centre, 2016)

Diversity and Equal Opportunity Centre, Bangaluru, Karnataka compared following four different guidelines for accessibility of built environment in India.

- a. Handbook on barrier free and accessibility, Central Public Works Department, 2014 – referred as CPWD
- b. Harmonised guidelines and space standards for barrier free built environment for persons, Ministry of Urban Development, 2015 – referred as HG
- c. National Building Code of India, Bureau of Indian Standard, 2015 – referred as NBC
- d. ISO 21542:2011 – International Standard – Building Construction – Accessibility and usability of the built environment – referred as ISO

**Manual Wheelchair:**

Dimensions	CPWD	HG	NBC	ISO
<b>Length</b>	645 mm – 1100 mm	1000 mm – 1200 mm	1000 mm – 1200 mm	-
<b>Width</b>	510 mm – 725 mm	650 mm – 720 mm	650 mm – 720 mm	-
<b>Height</b>	850 mm – 1140 mm	910 mm – 950 mm	910 mm – 950 mm	-

**Lift / Elevator:**

Dimensions	CPWD	HG	NBC	ISO
<b>Minimum inner dimensions of lift car</b>	2000 mm x 1100 mm	1500 mm wide x 1500 mm deep	1500 mm wide x 1500 mm deep	1100 mm x 1400 mm
<b>Lift car entrance – door opening</b>	Clear entrance width 900 mm	Clear opening of not less than 900 mm	Clear opening of not less than 900 mm	The unobstructed entrance width shall be at least 800 mm; 900 mm is preferred

**Ramp:**

Dimensions	CPWD	HG	NBC	ISO
<b>Minimum Width</b>	1800 mm	1200 mm	1200 mm	1200 mm
<b>Minimum Gradient</b>	1:12	1:12	1:12	1:12

**Handrails (Ramp)**

Dimensions	CPWD	HG	NBC	ISO
<b>Profile of handrails</b>	Circular Section – diameter 40 mm – 50 mm	Circular Section – diameter 38 mm – 45 mm	Circular Section – diameter 38 mm – 45 mm	Circular Section – diameter 35 mm – 45 mm
<b>Clear space from wall</b>	35 mm – 50 mm	50 mm	50 mm	40 mm
<b>Height of handrail above the floor level</b>	850 mm – 950 mm	760 mm – 900 mm	700 mm – 900 mm	850 mm – 1000 mm

**Unisex Accessible Toilet**

Dimensions	CPWD	HG	NBC	ISO
<b>Minimum Size</b>	1750 mm width x 2200 mm depth	2200 mm width x 2000 mm depth	2000 mm width x 2200 mm depth	1700 mm width x 2200 mm depth
<b>Minimum clear maneuvering space</b>	1500 mm x 1500 mm	1800 mm x 1800 mm	1800 mm x 1800 mm	1500 mm x 1500 mm
<b>Height of WC (Water Closet) from the floor</b>	380 mm – 450 mm	450 mm – 480 mm	450 mm – 480 mm	400 mm – 480 mm

**Research Methodology:**

For this study, descriptive research method is used.

**1. Data Collection:**

Following type of research data collected from NIRF 2021 and 2022 from particular autonomous colleges and institutes which is available in PDF form on institute website.

Facilities for physically challenged students:

1. Do your institution buildings have Lifts / Ramps?
2. Does your institution have provision for walking aids, including wheelchairs and transportation from one building to another for handicapped students?
3. Do your institution buildings have specially designed toilets for handicapped students?

**Data Analysis and Presentation:**

Table - 1 shows NIRF - Facilities for Physically Challenged Students

Sr. No.	Name of the Autonomous College / Institutes	NIRF Year	Lift Ramp /	Wheel chair	Toilet
1	Chhatrapati Shahu Institute of Business Education and Research, University Road, Kolhapur - 416 004 (Autonomous from 1995-96)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 60% of the buildings
2	Walchand College of Engineering, Vishrambag, Sangli - 416 415 (Autonomous from 2007-08)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 80% of the buildings
3	Rajarambapu Institute of Technology, Rajaramnagar, Sakharale - 415 414 Tal: Walwa, Dist: Sangli (Autonomous from 2011-12)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 60% of the buildings
4	Government College of Engineering, Karad - 415 110 Tal: Karad, Dist: Satara (Autonomous from 2015-16)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 80% of the buildings
5	Dhananjayrao Gadgil College of Commerce, Satara - 415 001 (Autonomous from 2016-17)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 80% of the buildings
6	DKTE Society's Textile & Engineering Institute, Rajwada Chowk, Ichalkaranji - 416 115 Dist: Kolhapur (Autonomous from 2016-17)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 80% of the buildings
7	Kolhapur Institute of Technology's College of Engineering Gokul - Shirgaon - 416 234 Tal: Karveer Dist: Kolhapur (Autonomous from 2017-18)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 40% of the buildings
8	Annasaheb Dange College of Engineering and Technology, ASHTA - 416 301 Tal: Walwa, Dist: Sangli (Autonomous from 2017-18)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 80% of the buildings

9	Vivekanand College, 204, E Ward, Tarabai Part, Kolhapur - 416 003 (Autonomous from 2018-19)	2022 (2020-21)	Yes, more than 40% of the buildings	Yes	Not available
10	Yashwantrao Chavan Institute of Science, Satara - 415 001 (Autonomous from 2018-19)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 80% of the buildings
11	Chhatrapati Shivaji College, Satara - 415 001 (Autonomous from 2019-20)	2022 (2020-21)	Yes, more than 60% of the buildings	Yes	Yes, more than 80% of the buildings
12	Sadguru Gadage Maharaj College, Vidyanagar, Karad - 415 124 Tal-Karad, Dist: Satara (Autonomous from 2019-20)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 40% of the buildings
13	Mahavir Mahavidyalaya, 7/E, Bhausingji Road, Kolhapur - 416 003 (Autonomous From 2020-21)	2021 (2019-20)	Yes, more than 80% of the buildings	Yes	Yes, more than 80% of the buildings
14	Tatyasaheb Kore Institute of Engineering & Technology, Warananagar - 416 113 Tal: Panhala Dist: Kolhapur (Autonomous From 2020-21)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 80% of the buildings
15	D. Y. Patil College of Engineering & Technology, Kasaba Bawada, Kolhapur - 416 006, (Autonomous From 2020-21)	2022 (2020-21)	Yes, more than 80% of the buildings	Yes	Yes, more than 60% of the buildings
16	Deshbhakta Ratnappa Kumbhar College of Commerce, Bindu Chowk, Kolhapur - 416 012 (Autonomous From 2021-22)	2022 (2020-21)	Yes, less than 40% of the buildings	No	Not available
17	Kamala College, Rajarampuri, Kolhapur -416 008 (Autonomous From 2022-23)	NIRF Not Participated	0	0	0

Only Kamala College, Kolhapur has not participated in NIRF. Total 16 autonomous colleges NIRF data are analyzed.

Table - 2 Shows Chi-Square Observed Frequencies

Observed Frequencies						
PCS Facilities: Facilities of physically challenged students	Not available	Yes, less than 40% of the buildings	Yes, more than 40% of the buildings	Yes, more than 60% of the buildings	Yes, more than 80% of the buildings	TOTAL
Lift / Ramp	0	1	1	1	13	16
Wheelchair	1	0	0	0	15	16
Toilet	2	0	2	3	9	16
<b>Total</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>37</b>	<b>48</b>

Table - 3 Shows Chi-Square Expected Frequencies

Expected Frequencies						
PCS Facilities: Facilities of physically challenged students	Not available	Yes, less than 40% of the buildings	Yes, more than 40% of the buildings	Yes, more than 60% of the buildings	Yes, more than 80% of the buildings	TOTAL
Lift / Ramp	1	0.33333333	1	1.33333333	12.33333333	16
Wheelchair	1	0.33333333	1	1.33333333	12.33333333	16
Toilet	1	0.33333333	1	1.33333333	12.33333333	16
<b>Total</b>	<b>3</b>	<b>0.99999999</b>	<b>3</b>	<b>3.99999999</b>	<b>36.99999999</b>	<b>48</b>

**Hypothesis Test:**

Hypothesis has tested using Chi-square test. For hypothesis testing, null and alternative hypothesis are as follows:

Hypothesis: 'Accessible facilities provided to students with disabilities in autonomous colleges and institutes are valuable'.

1. Null Hypothesis:  $H_0$  = There is no significant difference in accessible

facilities provided to students with disabilities in autonomous colleges and institutes.

2. Alternative Hypothesis:  $H_1$  = There is significant difference in accessible facilities provided to students with disabilities in autonomous colleges and institutes.

Table - 4 shows Chi-square / Test Statistics

Chi-Square / Test Statistic						
PCS Facilities: Facilities of physically challenged students	Not available	Yes, less than 40% of the buildings	Yes, more than 40% of the buildings	Yes, more than 60% of the buildings	Yes, more than 80% of the buildings	TOTAL
Lift / Ramp	1	1.33333333	0	0.08333333	0.03603604	2.4527
Wheelchair	0	0.33333333	1	1.33333333	0.57657659	3.24324
Toilet	1	0.33333333	1	2.08333335	0.90090089	5.31757
<b>Total</b>	<b>2</b>	<b>1.99999999</b>	<b>2</b>	<b>3.50000001</b>	<b>1.51351351</b>	<b>11.0135</b>

Calculations:

Significance Level = 0.05  
 Degree of freedom = 8  
 Test Statistic = 11.0135  
 p-Value = 0.20093468

Table No. 4 shows hypothesis testing using Chi-square test.

Calculated p-Value i.e., 0.20093468 is greater than Significance



Level i.e., 0.05 means accept the null hypothesis i.e., ‘there is no significant difference in accessible facilities provided to students with disabilities in autonomous colleges and institutes’ is true.

$0.20093468 > 0.05 = \text{Accept Null Hypothesis}$

### Findings:

- 1 Hypothesis testing shows that null hypothesis i.e., ‘there is no significant difference in accessible facilities provided to students with disabilities in autonomous colleges and institutes’ is true.
- 2 All 16 autonomous colleges and institutes are providing valuable accessible facilities to students with disabilities at satisfactory level.

### Conclusion:

Standard accessible ramp, lift, toilet and transportation facilities to students with disabilities provides confidence in this group to actively as well as on equal basis participate in each and every education activity. 16 autonomous institutes provide their building with standard accessible infrastructural facilities to students with disabilities.

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