



A Study about Research Productivity of Participating Organisations of IRINS from West Bengal

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Abstract

Indian Research Information Network System (IRINS) is web-based Research Information System (RIM) of India developed by Central University of Punjab, Bathinda jointly in collaboration with Information and Library Network (INFLIBNET) Centre, Gandhinagar. The objective of this study was to analyse the publication growth of different departments and subjects of different academic organisations and find out top faculties of different disciplines in West Bengal. For conducting this study relevant website of IRINS was consulted (<https://irins.org/irins/>). This paper analyses the data of 42 educational and research organisations of West Bengal enlisted in the IRINS. In IRINS database it had been found that 7 types of enlisted organisations with 6003 participated faculty experts from West Bengal. Indian Institute of Technology (IIT) Kharagpur had enlisted the highest 689 number of participating faculty experts with the highest number of publications and citations. Department of Physics of Visva-Bharati University had a 118 h-index with 1,419 publications and holds the top position in West Bengal. In the same way, Dr. Manas Maity, department of Physics of Visva-Bharati University had the highest 1,118 number of publications and 82,599 Scopus citations. But Dr. Sidharth Kumar Prasad, department of Physics of Bose Institute occupied rank 1 in respect of h-index as he had highest h-index (130).

Keywords: Cross Ref Citation, Faculty profiles, Google scholar citation, H-index, Indian Research Information Network System (IRINS), INFLIBNET, Scopus citation, West Bengal

1. Introduction

In 2017 Information and Library Network (INFLIBNET), Gandhinagar and central University of Punjab jointly collaborated and developed Indian Research Information Network System (IRINS) through the National Mission on Education. The origin of the IRINS database was expert database and VIDWAN database. VIDWAN is a database of research profiles of scientists,

researchers and faculty members of foremost academic organisations all over India. To form IRINS database Vidwan database was combined with academic identities such as ORCID ID, Scopus ID, Research ID, Microsoft Academic ID, Google Scholar ID for ingesting the scholarly publications from several sources. IRINS database enriched us with information about the research productivity of publications, citations, and h-



index at the individual, department and organisation levels of India. This paper has made an effort to study using the data of 42 academic organisations of West Bengal from IRINS.

2. Review of related literature

Few numbers of studies have been carried out in this respect. However, these are discussed. Kannan (2015) discussed on semantic-based profile management system called VIVO and stated its architecture, data integration tools, major features and functionalities. It also stated how it is used in scholarly communication. Again Kannan, Kimidi, and Arora (2018) discussed in detail the system of IRINS, its method of use and effectively measuring of research productivity of academic organisations as well as individual faculty experts. Chaman Sab, Dharani Kumar and Biradar (2019) studied 17 institutions from IRINS. By analysing the data, they gave ranks based on number of publications and different types of citations. They also identified the most productive authors. Balasubramani, Anbalagan, and Palavesam (2019) also studied 15 academic and research organisations and analysed the faculty members, departments and their scholarly publications with citation and impact. Tamizhchelvan and Anbalagan (2020) did a case study of faculty profiles of the Gandhigram Rural Institute. The data has been taken from IRINS database and found that department of Chemistry has the highest number of publications and citations.

Here the researcher observed that the study among the participating organisations of West Bengal was still not identified. So, the study has completely focused on that area to highlight the situation of West Bengal.

3. Objectives of the study

The objectives of this study are:

- i. To examine the various organisations in West Bengal listed in IRINS
- ii. To analyse the publication growth of different departments and subjects of different academic organisations in West Bengal
- iii. To find out the top faculties in their respective fields and their publications in West Bengal
- iv. To find out the contribution of the top department of each organisation and h-index
- v. To analyse the faculty members and Scopus publications of IRINS implemented organisations.

4. Scope and methodology

To conduct this study, relevant websites (<https://irins.org/irins/>) of Indian Research Information Network System (IRINS) were consulted during April, 2023. First, the names of the 42 organisations under the state of West Bengal were listed. A total of 6003 faculty experts from 42 participating organisations were found for this study.

The study is aimed to analyse the enlisted organisations and faculty-based Scopus and Cross Ref publications. It also analyses various types of documents, the top twenty departments, the top twenty faculty publications, citations and h-index of individual organisations. The collected data has been analysed by using simple percentages and ranking based on frequency.

5. Findings and analysis

The collected data has been analysed with the percentages, averages and ranking.



5.1 List of IRINS enlisted organisations in West Bengal

West Bengal have participated in IRINS. Table 1 shows category wise total enlisted organisations.

Different categories of organisations in

Table 1: IRINS enlisted organisations in West Bengal, participated faculty experts, number of publications and citations

Sl. No.	Name of the Organisations	Organisation Type	District	Total Number of Faculty Members	Total Publications	No. of Scopus Citations	No. of Cross Ref Citations
1	Adamas University	Private University	North 24 Parganas	293	1731	5307	5784
2	Ananda Mohan College	College	Kolkata	40	233	980	1346
3	Bankura Sammilani College	College	Bankura	82	432	1242	1407
4	Banwarilal Bhalotia College	College	Paschim Bardhaman	124	247	1759	1567
5	Bose Institute	Research and Development	Kolkata	42	2010	49327	19595
6	CSIR-Central Mechanical Engineering Research Institute	Research and Development	Paschim Bardhaman	111	1816	24898	9572
7	CSIR-Indian Institute of Chemical Biology	Research and Development	Kolkata	52	1567	27539	25045
8	DAE-Variable Energy Cyclotron Centre	Research and Development	Kolkata	46	1802	45234	38820
9	Garhbeta College	College	Medinipur	102	253	581	638
10	Guru Nanak Institute of Technology	Technical Institute	Kolkata	113	750	617	527
11	ICAR-National Institute of Natural Fibre Engineering and Technology	Research and Development	Kolkata	27	470	3908	2308
12	ICSSR-Centre for Studies in Social Sciences	Research and Development	Kolkata	19	47	264	312
13	Indian Institute of Engineering Science and Technology, Shibpur	Institute of National Importance	Howrah	180	7392	59567	37252
14	Indian Institute of Information Technology, Kalyani	Institute of National Importance	Nadia	12	245	2060	1551



Sl. No.	Name of the Organisations	Organisation Type	District	Total Number of Faculty Members	Total Publications	No. of Scopus Citations	No. of Cross Ref Citations
15	Indian Institute of Management, Calcutta	Institute of National Importance	South 24 Parganas	79	1708	15572	14074
16	Indian Institute of Science Education and Research, Kolkata	Institute of National Importance	Nadia	39	2367	88435	68637
17	Indian Institute of Technology Kharagpur	Institute of National Importance	Paschim Medinipur	689	33684	595631	425316
18	Indian Statistical Institute	Institute of National Importance	Kolkata	286	9421	136085	119343
19	Jadavpur University	State University	Kolkata	645	19553	232817	146793
20	JIS College of Engineering	Technical Institute	Nadia	144	1384	3821	2959
21	KaziNazrul University	State University	Burdwan	70	391	2188	2069
22	MeghnadSaha Institute of Technology	Technical Institute	Kolkata	56	358	943	199
23	Midnapore City College	College	Paschim Medinipur	68	215	511	368
24	Midnapore College (Autonomous)	College	Paschim Medinipur	185	550	6997	6740
25	Nabadwip Vidyasagar College	College	Nadia	77	303	475	544
26	National Institute of Pharmaceutical Education and Research, Kolkata	Institute of National Importance	Kolkata	15	142	556	716
27	National Institute of Technology, Durgapur	Institute of National Importance	Burdwan	217	7772	91699	66648
28	Netaji Subhash Engineering College	Technical Institute	Kolkata	120	907	3754	1444
29	Prabhu Jagatbandhu College	College	Howrah	43	56	12	7
30	Ramakrishna Mission Sikshanamandira	College	Howrah	23	15	0	0
31	S. N. Bose National Centre for Basic Sciences	Research and Development	Kolkata	41	2231	52830	48497



Sl. No.	Name of the Organisations	Organisation Type	District	Total Number of Faculty Members	Total Publications	No. of Scopus Citations	No. of Cross Ref Citations
32	Siliguri College	College	Siliguri	105	215	535	394
33	St. Xavier's University, Kolkata	Private University	Kolkata	111	487	28	87
34	Surya Sen Mahavidyalaya	College	Jalpaiguri	60	201	382	6
35	Tamralipta Mahavidyalaya	College	Purba Medinipur	104	722	2976	3594
36	Techno International New Town	College	Kolkata	112	838	6856	2396
37	Tehatta Sadananda Mahavidyalaya	College	Burdwan	18	41	138	78
38	The University of Burdwan	State University	Bardhaman	236	7504	50071	51185
39	University of Calcutta	State University	Kolkata	473	9764	124106	83587
40	University of North Bengal	State University	Darjeeling	36	292	1435	1088
41	Vidyasagar University	State University	Paschim Medinipur	154	292	26670	15322
42	Visva-Bharati University	Central University	Birbhum	554	11082	122775	71196
Total				6003	131490	1791581	1279011

There are seven types of categories under which a total of 42 organisations are enlisted from West Bengal. Following are the types and numbers under different types:

1. Central University : 1
2. College : 14
3. Institute of National Importance : 8
4. Private University : 2
5. Research and Development : 7
6. State University : 6
7. Technical Institute : 4

The table also shows the total number of enlisted faculty experts, their publication numbers, Scopus and Cross Ref citations.

Following are the findings from table 1:

- Indian Institute of Technology Kharagpur had enlisted the highest 689 faculty experts in IRINS followed by Jadavpur University (645 faculty experts) and Visva-Bharati University (554 number of faculty experts).
- Indian Institute of Technology Kharagpur had the highest 33,684 number of publications in IRINS followed by Jadavpur University (19,553 publications) and Visva-Bharati University (11,082 publications).
- Indian Institute of Technology Kharagpur had the highest 5,95,631 and 4,25,316 number of Scopus and



Cross Ref Citations respectively in IRINS followed by Jadavpur University (2,32,817 and 1,46,793 number of Scopus and Cross Ref Citations respectively) and Indian Statistical Institute Kolkata (1,36,085 and 1,19,343 number of

Scopus and Cross Ref Citations respectively)

5.2 Various types of documents listed in organisations

Different types and their numbers of research outputs are listed in table 2.

Table 2: Different types of documents

Sl. No.	Organisations	Total Scholarly Resources	Details of Resources				Rank
			Journal Articles	Conference Proceedings	Books / Chapters	Other	
1	Adamas University	1731 (1.32%)	887	243	355	246	14
2	Ananda Mohan College	233 (0.18%)	163	39	20	11	34
3	Bankura Sammilani College	432 (0.33%)	279	42	100	11	25
4	Banwarilal Bhalotia College	247 (0.19%)	184	24	24	15	32
5	Bose Institute	2010 (1.53%)	1802	80	32	96	11
6	CSIR-Central Mechanical Engineering Research Institute	1816 (1.38%)	1238	453	42	83	12
7	CSIR-Indian Institute of Chemical Biology	1567 (1.19%)	1340	28	32	167	16
8	DAE-Variable Energy Cyclotron Centre	1802 (1.37%)	1419	283	8	92	13
9	Garhbeta College	253 (0.19%)	138	45	28	42	31
10	Guru Nanak Institute of Technology	750 (0.57%)	312	296	56	86	20
11	ICAR-National Institute of Natural Fibre Engineering and Technology	470 (0.36%)	416	6	27	21	24
12	ICSSR-Centre for Studies in Social Sciences	47 (0.04%)	35	-	8	4	40



Sl. No.	Organisations	Total Scholarly Resources	Details of Resources				Rank
			Journal Articles	Conference Proceedings	Books / Chapters	Other	
13	Indian Institute of Engineering Science and Technology, Shibpur	7392 (5.62%)	4572	2277	270	273	8
14	Indian Institute of Information Technology, Kalyani	245 (0.19%)	155	77	10	3	33
15	Indian Institute of Management, Calcutta	1708 (1.29%)	1111	303	160	134	15
16	Indian Institute of Science Education and Research, Kolkata	2367 (1.80%)	2022	197	48	100	9
17	Indian Institute of Technology Kharagpur	33684 (25.62%)	24693	6632	867	1492	1
18	Indian Statistical Institute	9421 (7.16%)	6573	2118	260	470	5
19	Jadavpur University	19553 (14.87%)	13589	4472	626	866	2
20	JIS College of Engineering	1384 (1.05%)	644	445	141	154	17
21	Kazi Nazrul University	391 (0.29%)	279	30	54	28	26
22	Meghnad Saha Institute of Technology	358 (0.27%)	157	122	15	64	27
23	Midnapore City College	215 (0.16%)	134	6	18	57	35
24	Midnapore College (Autonomous)	550 (0.42%)	413	52	24	61	22
25	Nabadwip Vidyasagar College	303 (0.23%)	231	25	30	17	28
26	National Institute of Pharmaceutical Education and Research, Kolkata	142 (0.11%)	105	4	7	26	38



Sl. No.	Organisations	Total Scholarly Resources	Details of Resources				Rank
			Journal Articles	Conference Proceedings	Books / Chapters	Other	
27	National Institute of Technology, Durgapur	7772 (5.91%)	4880	2444	211	237	6
28	Netaji Subhash Engineering College	907 (0.69%)	374	418	80	35	18
29	Prabhu Jagatbandhu College	56 (0.04%)	42	5	6	3	39
30	Ramakrishna Mission Sikshanamandira	15 (0.01%)	5	4	6	-	42
31	S. N. Bose National Centre for Basic Sciences	2231 (1.69%)	2020	133	11	67	10
32	Siliguri College	215 (0.16%)	131	26	35	23	36
33	St. Xavier's University, Kolkata	487 (0.37%)	257	38	149	43	23
34	Surya Sen Mahavidyalaya	201 (0.15%)	83	31	61	26	37
35	Tamralipta Mahavidyalaya	722 (0.55%)	501	74	113	34	21
36	Techno International New Town	838 (0.64%)	381	267	145	45	19
37	Tehatta Sadananda Mahavidyalaya	41 (0.03%)	23	3	13	2	41
38	The University of Burdwan	7504 (5.71%)	5832	390	734	548	7
39	University of Calcutta	9764 (7.43%)	7623	1148	382	611	4
40	University of North Bengal	292 (0.22%)	176	21	24	71	29
41	Vidyasagar University	292 (0.22%)	176	21	41	54	30
42	Visva-Bharati University	11082 (8.43%)	8332	747	1279	724	3
Total		131490					



Table 2 shows the total number of scholarly resources and their types like-journal articles, conference / in proceedings, books/chapters, etc. It also shows the rank of all the enlisted organisations in IRINS in West Bengal according to their total scholarly resources. Indian Institute of Technology Kharagpur had 33,684 (25.62%) scholarly resources including journal articles (24693), conference / in proceedings (6632), books/chapters (867) and others (1492) and got first in position followed by Jadavpur University having 19553 (14.87%) resources and Visva-Bharati University having 11082

(8.43%) resources. It was also found that Ramakrishna Mission Sikshanamandira, Howrah had 15 (0.01%) numbers of resources and Tehatta Sadananda Mahavidyalaya, Burdwan had 41 (0.03%) resources and had placed in last and second positions.

5.3 Department wise publications and their h-index

Department wise total publications and h-index of participated academic organisations of West Bengal can be found through IRINS.

Table 3: Top twenty departments according to h-index

Rank	Departments	Organisations	Publications	h-index
1	Physics	Visva-Bharati University	1419	118
2	Chemistry	Indian Institute of Technology Kharagpur	2513	101
3	Physics Group	DAE-Variable Energy Cyclotron Centre	1349	98
4	Civil Engineering	Indian Institute of Technology Kharagpur	2233	91
5	Chemical Engineering	Indian Institute of Technology Kharagpur	1561	86
6	Electrical Engineering	Indian Institute of Technology Kharagpur	1918	82
6	Machine Intelligence Unit	Indian Statistical Institute	1237	82
7	Chemistry	University of Calcutta	2025	81
8	Biochemistry	Indian Institute of Technology Kharagpur	1060	80
9	Physics	Bose Institute	688	78
9	Mechanical Engineering	Indian Institute of Technology Kharagpur	2578	78
10	School of Medical Science and Technology	Indian Institute of Technology Kharagpur	1175	76
10	Agriculture and Food Engineering	Indian Institute of Technology Kharagpur	1363	76
11	Physics	Indian Institute of Science Education and Research, Kolkata	676	73
11	Rubber Technology	Indian Institute of Technology Kharagpur	1286	73
11	Chemistry	Jadavpur University	1977	73
11	Pharmaceutical Technology	Jadavpur University	1629	73
12	Computer Science and Engineering	Indian Institute of Technology Kharagpur	3474	70
13	Electronics and Communication Science	Indian Statistical Institute	720	68
13	Physics	Indian Institute of Technology Kharagpur	2048	68
14	Geology and geophysics	Indian Institute of Technology Kharagpur	1056	66
15	Industrial and System Engineering	Indian Institute of Technology Kharagpur	961	65
16	Astrophysics and Cosmology	DBT-S. N. Bose National Centre for Basic Science	278	63
17	Metallurgical and Material Engineering	Indian Institute of Technology Kharagpur	1363	59
18	Production Engineering	Jadavpur University	931	58
18	Material Science Centre	Indian Institute of Technology Kharagpur	818	58
19	Physics	National Institute of Technology, Durgapure	1016	57



Rank	Departments	Organisations	Publications	h-index
19	Condensed Matter Physics and Material Science	DBT-S. N. Bose National Centre for Basic Science	743	57
20	Chemical, Biological and Macro-Molecular Science	DBT-S. N. Bose National Centre for Basic Science	780	56
20	Botany	University of Calcutta	940	56
20	Electronics and Electrical Communication Engineering	Indian Institute of Technology Kharagpur	2276	56
20	Computer Vision and Pattern Recognition Unit	Indian Statistical Institute	933	56

Table 3 shows the contribution of the top twenty departments according to their h-index as well as their number of publications of different organisations of West Bengal in IRINS database. Department of Physics of Visva-Bharati University had 118 h-index with 1,419 publications and was top on the list. Same way department of Chemistry at Indian Institute of Technology Kharagpur had a 101 h-index and got second rank followed by department of Physics Group of DAE-Variable Energy Cyclotron Centre with a 98 h-index. It was further found that four organisations had ranked twenty as they have the same h-index (56). These are the department of Chemical, Biological and

Macro-Molecular Science of DBT-S. N. Bose National Centre for Basic Science, department of Botany of University of Calcutta, department of Electronics & Electrical Communication Engineering of Indian Institute of Technology Kharagpur and Computer Vision & Pattern Recognition Unit of Indian Statistical Institute.

5.4 Top faculty experts of individual organisations, their Publications, Citations and Rank

Organisation wise top faculties in respect of publications and citations have been presented in table 4.

Table 4: Top twenty faculties according to their publications, Scopus citations and h-index

Sl. No.	Faculties	Organisations	Department	Publications		Scopus Citations		h-index	
				Number	Rank	Number	Rank	h-index	Rank
1	Dr. Alakananda Hajra	Visva-Bharati University	Chemistry	299	-	8634	-	52	12
2	Dr. Anirban Sarkar	National Institute of Technology, Durgapur	Computer Science and Engineering	395	14	8657	-	52	12
3	Dr. Anjali Pal	Indian Institute of Technology	Civil Engineering	246		10462	15	48	15
4	Dr. Ashutosh Ghosh	University of Calcutta	Chemistry	307		7822	-	48	15
5	Dr. Bikash Sinha	Variable Energy Cyclotron Centre	Physics	374	16	25779	5	86	4



Sl. No.	Faculties	Organisations	Department	Publications		Scopus Citations		h-index	
				Number	Rank	Number	Rank	h-index	Rank
6	Dr. Chittaranjan Sinha	Jadavpur University	Production Engineering	490	7	7289	-	42	19
7	Dr. Debanjan Bose	S. N. Bose National Centre for Basic Sciences	Astrophysics and Cosmology	154		15533	10	63	7
8	Dr. Debasis Das	University of Calcutta	Chemistry	1209	2	39592	4	96	3
9	Dr. Debasis Das	The University of Burdwan	Chemistry	384	15	6494	-	44	18
10	Dr. Goutam Brahmachari	Visva-Bharati University	Chemistry	318	20	3263	-	32	-
11	Dr. Kalyan Kumar Chattopadhyay	Jadavpur University	Physics	443	8	9653	19	47	16
12	Dr. Krishnendu Acharya	University of Calcutta	Botany	293	-	5883	-	40	20
13	Dr. Kumar Biradha	Indian Institute of Technology	Chemistry	204	-	11967	14	52	12
14	Dr. Madhumangal Pal	Vidyasagar University	Applied Mathematics	372	17	4105	-	34	-
15	Dr. Mahitosh Mandal	Indian Institute of Technology	School of Medical Science and Technology	232	-	9898	18	56	11
16	Dr. Manas Maity	Visva-Bharati University	Physics	1118	1	82599	1	118	2
17	Dr. Manoj Kumar Tiwari	Indian Institute of Technology	Industrial and Systems Engineering	412	11	13969	13	56	11
18	Dr. Narayan C Pradhan	Indian Institute of Technology	Chemical Engineering	232	-	14005	12	57	10
19	Dr. Nikhil Ranjan Pal	Indian Statistical Institute	Electronics and Communication Sciences Unit (ECSU)	259	-	14169	11	51	13
20	Dr. Nilanjan Dey	Techno International New Town	Computer Science and Engineering	513	6	8175	-	46	17
21	Dr. Pratim Kumar Chattaraj	Indian Institute of Technology	Chemistry	431	9	16561	8	60	8



Sl. No.	Faculties	Organisations	Department	Publications		Scopus Citations		h-index	
				Number	Rank	Number	Rank	h-index	Rank
23	Dr. Saikat Biswas	Bose Institute	Physics	237	-	8504	-	49	14
24	Dr. Samir Kumar Pal	S. N. Bose National Centre for Basic Sciences	Chemical, Biological & Macro-Molecular Sciences	320	19	10412	16	51	13
25	Dr. Sankar Kumar Pal	Indian Statistical Institute	Machine Intelligence Unit (MIU)	401	13	15675	9	56	11
26	Dr. Shyamaprosad Goswami	Indian Institute of Engineering Science and Technology, Shibpur	Chemistry	253	-	7504	-	48	15
27	Dr. Sidharth Kumar Prasad	Bose Institute	Physics	899	3	76612	2	130	1
28	Dr. Sirshendu De	Indian Institute of Technology	Chemical Engineering	342	18	9282	20	52	12
29	Dr. Soumen Basu	National Institute of Technology, Durgapur	Physics	725	4	17936	7	59	9
30	Dr. Suman Chakraborty	Indian Institute of Technology	Mechanical Engineering	551	5	10075	17	49	14
31	Dr. Swagatam Das	Indian Statistical Institute	Electronics and Communication Sciences Unit (ECSU)	405	12	18004	6	64	6
32	Dr. Swapan Kumar Pradhan	The University of Burdwan	Physics	430	10	4136	-	35	-

Table 4 indicates the top twenty faculty of individual organisations and their departments according to their publication numbers, Scopus Citation numbers and h-index. Table shows Dr. Manas Maity, department of Physics of Visva-Bharati University had 1118 publications and got ranked 1. In the same way, he got rank 1 as he had the highest number (82599) of Scopus citations but got rank 2 as he had the second highest h-index (118). In this respect, Dr. Sidharth Kumar Prasad, department of Physics of Bose Institute had got rank 1 as he

had 130 h-index but he got 3rd rank in respect of publication (899) and 2nd rank in respect of Scopus Citation (76,612).

6. Summary of findings

It can be observed that IIT, Kharagpur uploaded the highest number of (689 faculties) faculty profiles in the IRINS database which included the highest number of 33,684 publications. It also showed that based on research quality these publications had the highest number of Scopus Citations (2,32,817) and Cross Ref Citations (1,46,793)



among all. Which revealed IIT, Kharagpur had the lead position in the field of research productivity in West Bengal. In the case of individual departmental output Department of Physics, Visva-Bharati University was in the top position with a 118 h-index among all in West Bengal. As per the data of individual experts Dr. Manas Maity, department of Physics of Visva-Bharati University holds the 1st position according to the number of publications but Dr. Sidharth Kumar Prasad, department of Physics of Bose Institute got the top position according to h-index.

7. Conclusion

IRINS plays a vital role in keeping the research and academic field informed about research productivity like several publications, Scopus citations, CrossRef citations, Google Scholar citations, h-index and i-10 index of higher educational organisations as well as individual faculty experts. For ranking and accreditation purposes different academic organisations face a huge problem in collecting the data on research activities of faculty experts. IRINS can help in this regard as this database provides a complete picture of the research productivity of an institute as well as individual faculties.

This study gives an overall picture of the participating organisations of West Bengal. It shows central government funded organisations have greater research productivity than others. Among the state university research productivity, the Jadavpur University is doing better in comparison to others. Private universities and colleges need to improve as they have a smaller number of publications by their faculties.

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