
Use of In-House Periodical Collections by Doctoral Students of Chemistry: A Citation Analysis

Veerabasavaiah, M

Former Professor and Chairman
Department of Library and Information science,
Bangalore University, Bangalore
E-mail: vrbasavaiah@gmail.com

Mohan Kumar K V

Research Scholar
Department of Library and Information Science,
Bangalore University, Bangalore
E-mail: moni090@gmail.com

Abstract

A total number of 52609 citations were selected from 194 doctoral theses in chemistry submitted from 1972 to 2014 to the Department of Chemistry, Bangalore University, Bangalore. The citation analysis technique was chosen for present study evaluate the periodical ranks. The results of the study checked with the host library periodicals collections with the ranking table. The library has only subscribed 190 (34.74%) periodicals collections. Therefore, it is suggested to the authorities to subscribe more periodicals for the benefits of users.

Keywords

Citation analysis; Doctoral thesis; Chemistry; Host Library; Periodical Collection; Bangalore University Library

Electronic access

The journal is available at www.jalis.in



Journal of Advances in Library and Information Science
ISSN: 2277-2219 Vol. 10. No.1. 2021. pp.16-37

INTRODUCTION:

The citation analysis study is one of the indicator of collection development for libraries. It supports to the librarians and users to guide in the selection and use of library resources. Due to the increasing in cost of periodicals the librarians in selection of documents have to use citation analysis studies tools for help in make decision on acquisition of relevant documents, retention, and cancellation.

Related Work

There are several related works were made by LIS Professionals both Indian and Abroad.

Haycock (2004).He Analyzed citations from 43 education dissertations on curriculum and instruction completed at the University of Minnesota during the calendar years 2000–2002. The study reveals regarding measurement of collections of host library used by education students. The study help the faculty of education to refer their required periodicals. Padmavathi & Veerabasavaiah (2014). They analyzed 10447 citations from 70 Doctoral Thesis in education submitted during the period from 1998 to 2012 at the Department of Education, Bangalore University, and Bangalore. The study reveals that the Journals are the most preferred sources of information used by the researchers, journals accounts for 4089(39.43%)of total Citations. The citations from books, conference proceedings, thesis and dissertations, reports are also used. The study carried out to find out the types of cited documents used by the researchers. The ranked list of cited journals, age wise distribution of cited documents and ranking of periodicals also done compared with host library collections. Johnson (1987).He applied collection development process in the university library and found that out 194 title of periodicals 122 titles were subscribed by university library. There are about (63%) of periodicals were subscribed by University Library. Zipp (1996).He elucidated that citation analysis is a long-standing collection-evaluation tool often undertaken to investigate one aspect of library collection use. Citations from theses and dissertations are much

more easily and comprehensively gathered than are citations voluntarily supplied by faculty. Using four studies Positive associations are confirmed in three data sets. Additional descriptive analysis shows that the 40 titles most heavily cited in theses and dissertations consistently contained about 70% of the top 40 titles cited by faculty, including most of the 12-15 top titles, If results are replicated, thesis and dissertation citations can be reliably used as a surrogate for faculty publication citations in evaluations of the research portion of library collection use. Mortimore (2005). He studied problem of access versus ownership and surveying uses of ILL data in collection assessment, this paper argues for a model of access-informed collection development that brings subject analysis This paper argues that access-informed subject analysis improves on assessment methods that do not include all three variables, and that just-in-time acquisitions augments subject analysis by providing selection guidance beyond the level of LC subclasses, as well as discrete, measurable feedback on selection decisions. Hurd and Others (2002). Studied that documenting the usage patterns of electronic journals have compared print and e-journal characteristics, surveyed faculty for their perceptions and expectations, and analyzed the impact on library practices. This study, a qualitative exploration of a wide array of issues related to the research and teaching habits of early adopters of e-journals in a research setting, was conducted in the spring of 2001 with faculty in the basic and health sciences at the University of Illinois at Chicago. Open-ended questionnaires provided a framework to wide-ranging discussions of perceptions, expectations, and changing practices pertaining to e-journals and other electronic resources. The results were analyzed with a specific focus on shared behaviors and values, discipline-dependent variations, and changing research and teaching habits. Several challenges for library resources and services are identified and discussed. Byrd & Others (1982). This paper describes a statistical method for determining subject strengths and weaknesses in a library book collection in relation to user demand. Using interlibrary loan borrowing and book acquisition statistics gathered for one fiscal year from three health sciences libraries,

the authors developed a way to graph the broad and narrow subject fields of strength and potential weakness in a book collection. This method has the advantages of simplicity, speed of implementation, and clarity. It can also be used over a period of time to verify the success or failure of a collection development program. Finally, the method has potential as a tool for use by two or more libraries seeking to improve cooperative collection development in a network or consortium.

SCOPE& LIMITATIONS OF STUDY:

The following scope and limitations has been selected for present study: The scope of study is doctoral thesis in chemistry submitted to Department of Chemistry, Bangalore University, Bangalore from (1972-2014). The citation analysis techniques selected for study. Their reference list of each thesis were selected for the study and they were analyzed according to the different parameters of citation study.

OBJECTIVES OF THE STUDY:

The objectives of present study are as follows:

- To understand the total thesis submitted, availability of citations and average citation in each thesis.
- To know form wise distribution of citations used by researchers
- To prepare rank list of core periodicals
- To correlate ranking of periodicals with in-house collections of periodicals
- To verify the country wise distribution of host library periodical collection development

METHODOLOGY AND SAMPLE:

Citation study technique is adapted for present study. There are 194 PhD Theses and their 52609 were analysed according to citation study. The data was entered into MS Excel sheet according to standard catalogue code AACR2. The ranked periodicals were checked to understand the country of publications and referred NUCSSI and SCIMAGOJR Websites.

194	52609	271.18
-----	-------	--------

DATA ANALYSIS & INTERPRETATION:

Table 1: Number of Doctoral Theses, Distribution of Citation and Average Citation Per Theses

No. of Theses Submitted	No. of Citations	Average Citations
-------------------------	------------------	-------------------

Table-1 Highlights on Number of Theses, Number of Citations and Average Citations. There are 194 Theses were selected from the study. The citations of 52609 were noticed and It can be calculated and average citations per thesis identified as (271.18%).

Table-2: Form wise Distribution of Citations referred by researchers

Sl. No.	Rank No.	Bibliographic Form	No. of Citations	%	Cumulative Citations	Cumulative %
1	1	Periodicals	39184	74.48	39184	74.48
2	2	Textbooks	9925	18.87	49109	93.35
3	3	Conferences Proceedings	1039	1.97	50148	95.32
4	4	Reference sources (Encyclopedias/Dictionaries/ Handbooks & Manual/Bibliographies)	605	1.15	50753	96.47
5	6	Patents	588	1.12	51341	97.59
6	7	Thesis/Dissertations	347	0.66	51688	98.25
7	9	Abstracts	157	0.30	51845	98.55
8	8	Web resources	202	0.38	52047	98.93
9	5	Miscellaneous Information (incomplete references)	562	1.07	52609	100.00
			52609	100.00		

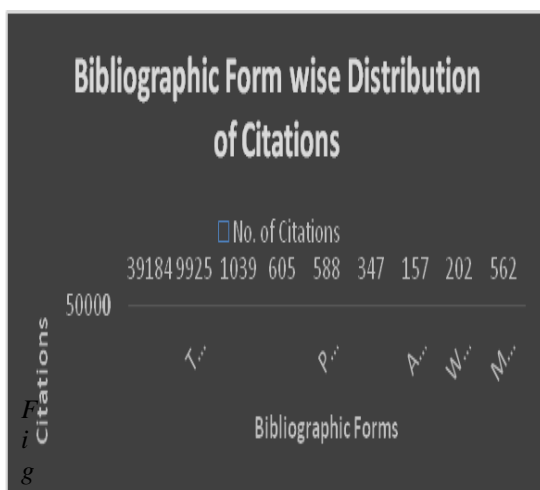


Table-2 represents forms of documents referred by researchers. Out of 52609 citations there are 39184 (74.48%) periodicals were referred by the researchers. Followed by Textbooks with 9925 (18.87%). Theses and dissertations cited with 347 (0.66%) and respectively.

re-1 Bibliographic Form wise Distribution of Citations

Table-3: Ranking of Core List of Periodicals Referred by Researchers

SI No	Rank	Journal Name	No of Citations	%	Cumulative Citation	Cumulative Percentage	Country of Origin
1	1	Journal of the American Chemical Society	1868	4.77	1868	4.77	USA
2	2	Journal of Organic Chemistry	1561	3.98	3429	8.75	USA
3	3	Tetrahedrons Letters	1061	2.71	4490	11.46	UK
4	4	Acta Crystallographica	686	1.75	5176	13.21	USA
5	5	Journal of Physical Chemistry	669	1.71	5845	14.92	USA
6	6	Journal of Materials Chemistry	641	1.64	6486	16.55	UK
7	7	Journal of the Electrochemical Society	587	1.50	7073	18.05	USA
8	8	Chemistry of Materials	584	1.49	7657	19.54	USA
9	9	Journal of the Chemical Society	524	1.34	8181	20.88	UK
10	10	Journal of Biological Chemistry	502	1.28	8683	22.16	USA
11	11	Journal of Medicinal Chemistry	464	1.18	9147	23.34	USA
12	12	Indian Journal of Chemistry - Section IJC-A	450	1.15	9597	24.49	India
13	13	Journal of Organometallic Chemistry	435	1.11	10032	25.60	Netherlands
14	14	Chemical Reviews	425	1.08	10457	26.69	USA
15	15	Inorganic Chemistry	414	1.06	10871	27.74	USA
16	16	Clays and Clay Minerals	400	1.02	11271	28.76	USA
17	17	Journal of Catalysis	391	1.00	11662	29.76	USA
18	18	Nature Chemistry	382	0.97	12044	30.74	UK
19	19	International Journal of Peptide Research and Therapeutics	360	0.92	12404	31.66	Germany
20	20	Synthesis	359	0.92	12763	32.57	Germany
21	21	Journal of Electroanalytical Chemistry	348	0.89	13111	33.46	Netherlands
22	22	Catalysis Today	342	0.87	13453	34.33	Netherlands
23	23	Plant Physiology	332	0.85	13785	35.18	USA
24	24	Journal of Molecular Catalysis A: Chemical	320	0.82	14105	36.00	China
25	25	Science	319	0.81	14424	36.81	USA
26	26	Journal of Solid-State Chemistry	310	0.79	14734	37.60	USA
27	27	Electrochimica Acta	304	0.78	15038	38.38	UK
28	28	Tetrahedron	301	0.77	15339	39.15	USA
29	29	Journal of Chemical Physics	291	0.74	15630	39.89	USA
30	30	Chemical Communications	270	0.69	15900	40.58	UK
31	31	Biochemical Journal	266	0.68	16166	41.26	UK
32	32	Analytical Chemistry	264	0.67	16430	41.93	USA
33	33	Inorganic Chemistry Communications	263	0.67	16693	42.60	Netherlands
34	34	Angewandte Chemie	248	0.63	16941	43.23	UK
35	35	Biochimica et Biophysica Acta	220	0.56	17161	43.80	Netherlands
36	36	Journal of Magnetic Resonance	218	0.56	17379	44.35	USA
37	37	Biochemical and Biophysical Research Communications	217	0.55	17596	44.91	USA
38	38	Journal of Heterocyclic Chemistry	211	0.54	17807	45.44	USA
39	38	Physical Review	211	0.54	18018	45.98	USA
40	39	Bioorganic and Medicinal Chemistry Letters	208	0.53	18226	46.51	UK
41	40	Inorganica Chimica Acta	203	0.52	18429	47.03	Netherlands
42	41	Synthetic Metals	194	0.50	18623	47.53	Netherlands
43	42	Transition Metal Chemistry	193	0.49	18816	48.02	Netherlands

44	43	Journal of the Chemical Society, Chemical Communications	192	0.49	19008	48.51	UK
45	44	European Journal of Biochemistry	191	0.49	19199	49.00	UK
46	45	Organic Letters	183	0.47	19382	49.46	USA
47	46	Chemistry Letters	177	0.45	19559	49.92	Japan
48	47	Cancer Research	171	0.44	19730	50.35	USA
49	48	Journal of Applied Physics	165	0.42	19895	50.77	USA
50	48	Talanta	165	0.42	20060	51.19	Netherlands
51	49	Applied Clay Science	164	0.42	20224	51.61	Netherlands
52	49	FEBS Letters	164	0.42	20388	52.03	USA
53	50	European Journal of Pharmacology	163	0.42	20551	52.45	Netherlands
54	51	Life Sciences	161	0.41	20712	52.86	USA
55	52	Solid State Science	160	0.41	20872	53.27	France
56	53	Journal of Biochemistry	154	0.39	21026	53.66	UK
57	54	Applied catalysis A: General	153	0.39	21179	54.05	Netherlands
58	55	Langmuir	152	0.39	21331	54.44	USA
59	56	Canadian Journal of Chemistry	150	0.38	21481	54.82	Canada
60	57	Materials Research Bulletin	147	0.38	21628	55.20	UK
61	58	American Journal of Physiology	146	0.37	21774	55.57	USA
62	58	Chemical and Pharmaceutical Bulletin	146	0.37	21920	55.94	Japan
63	59	Accounts of Chemical Research	143	0.36	22063	56.31	USA
64	60	Helvetica Chimica Acta	142	0.36	22205	56.67	USA
65	60	International Journal of Chemistry Research and Development	142	0.36	22347	57.03	India
66	61	Journal of the Indian Chemical Society	139	0.35	22486	57.39	India
67	62	Bulletin of the Chemical Society of Japan	138	0.35	22624	57.74	Japan
68	62	Phytochemistry	138	0.35	22762	58.09	UK
69	63	Current Science	128	0.33	22890	58.42	India
70	64	Chemical Physics Letters	127	0.32	23017	58.74	Netherlands
71	65	European Journal of Inorganic Chemistry	125	0.32	23142	59.06	Germany
72	65	Journal of Hazardous Materials	125	0.32	23267	59.38	Netherlands
73	65	Materials Chemistry and Physics	125	0.32	23392	59.70	Netherlands
74	66	Solid State Ionics	123	0.31	23515	60.01	Netherlands
75	67	Plant Science	121	0.31	23636	60.32	Netherlands
76	68	Journal of Experimental Botany	120	0.31	23756	60.63	UK
77	68	Materials Letters	120	0.31	23876	60.93	Netherlands
78	69	Archives of Biochemistry and Biophysics	118	0.30	23994	61.23	USA
79	70	Journal of polymer science:B:Polymer Physics	116	0.30	24110	61.53	USA
80	70	Polyhedron	116	0.30	24226	61.83	UK
81	71	Corrosion Science	113	0.29	24339	62.11	UK
82	71	Journal of Power Sources	113	0.29	24452	62.40	Netherlands
83	72	Advanced Materials	112	0.29	24564	62.69	USA
84	72	Environmental Science & Technology	112	0.29	24676	62.97	USA
85	72	Proceedings of the National Academy of Sciences	112	0.29	24788	63.26	USA
86	73	Molecular Pharmacology	111	0.28	24899	63.54	USA
87	74	Transactions of the Faraday Society	110	0.28	25009	63.82	UK
88	75	Annals of the New York Academy of Sciences	109	0.28	25118	64.10	USA
89	75	European Journal of Medicinal Chemistry	109	0.28	25227	64.38	France
90	76	Analytica Chimica Acta	108	0.28	25335	64.66	Netherlands

91	77	Journal of Agricultural and Food Chemistry	107	0.27	25442	64.93	USA
92	77	Journal of Materials Science Letters	107	0.27	25549	65.20	UK
93	77	Journal of Pharmacology and Experimental Therapeutics	107	0.27	25656	65.48	USA
94	78	Chemical Society Reviews	106	0.27	25762	65.75	UK
95	79	Journal of Insect Physiology	105	0.27	25867	66.01	UK
96	80	Synthetic Communications.	103	0.26	25970	66.28	USA
97	81	Green Chemistry	101	0.26	26071	66.53	UK
98	82	Canadian Journal of Biochemistry and Physiology	100	0.26	26171	66.79	Canada
99	83	Solid State Communications	99	0.25	26270	67.04	UK
100	84	Indian Journal of Experimental Biology	98	0.25	26368	67.29	India
101	84	Molecular Crystals and Liquid Crystals	98	0.25	26466	67.54	UK
102	85	Physical Chemistry Chemical Physics	96	0.24	26562	67.79	UK
103	86	Bioorganic & Medicinal Chemistry	92	0.23	26654	68.02	UK
104	86	Journal of Applied Electrochemistry	92	0.23	26746	68.26	Netherlands
105	86	Spectrochimica Acta	92	0.23	26838	68.49	Netherlands
106	87	ZeitschriftfürPhysikalischeChemie	91	0.23	26929	68.72	Germany
107	88	BiologiaPlatarum	89	0.23	27018	68.95	Switzerland
108	89	Journal of Photochemistry and Photobiology	87	0.22	27105	69.17	Netherlands
109	89	Journal of Thermal Analysis and Calorimetry	87	0.22	27192	69.40	Netherlands
110	90	Thin Solid Films	86	0.22	27278	69.62	Switzerland
111	91	Carbohydrate Research	83	0.21	27361	69.83	UK
112	91	Journal of Applied Crystallography	83	0.21	27444	70.04	UK
113	91	Organic Reactions	83	0.21	27527	70.25	USA
114	92	Comparative Biochemistry & Physiology	82	0.21	27609	70.46	USA
115	93	Journal of Chemical Education	80	0.20	27689	70.66	USA
116	94	Liquid Crystals	79	0.20	27768	70.87	UK
117	94	Pure and Applied Chemistry	79	0.20	27847	71.07	USA
118	95	Microchimica Acta	78	0.20	27925	71.27	Switzerland
119	95	Plant Molecular Biology	78	0.20	28003	71.47	Netherlands
120	96	British Journal of Pharmacology	77	0.20	28080	71.66	UK
121	96	Functional Plant Biology	77	0.20	28157	71.86	Australia
122	97	Journal of Inorganic Biochemistry	75	0.19	28232	72.05	USA
123	97	Journal of Plant Pathology	75	0.19	28307	72.24	Netherlands
124	98	Journal of the Science of Food and Agriculture	74	0.19	28381	72.43	USA
125	98	Microchemical Journal	74	0.19	28455	72.62	USA
126	99	Journal of Colloid and Interface Science	72	0.18	28527	72.80	USA
127	99	Journal of Cereal Science	72	0.18	28599	72.99	USA
128	100	New Phytologist	70	0.18	28669	73.17	UK
129	101	Chemosphere	69	0.18	28738	73.34	UK
130	101	Proceedings of the Royal Society	69	0.18	28807	73.52	UK
131	102	Journal Of Chemistry	68	0.17	28875	73.69	UK
132	102	Journal of Crystal Growth	68	0.17	28943	73.86	Netherlands
133	103	Berichte der DeutschenChemischen Gesellschaft	67	0.17	29010	74.04	USA
134	103	British Journal of Cancer	67	0.17	29077	74.21	UK
135	103	Carbon	67	0.17	29144	74.38	UK
136	103	Coordination Chemistry Reviews	67	0.17	29211	74.55	Netherlands

137	103	Journal of Applied Chemistry	67	0.17	29278	74.72	UK
138	103	Plant, Cell & Environment	67	0.17	29345	74.89	UK
139	103	Ultrasonics Sonochemistry	67	0.17	29412	75.06	Netherlands
140	104	Human Heredity	66	0.17	29478	75.23	Switzerland
141	104	Journal of Applied Polymer Science	66	0.17	29544	75.40	USA
142	104	Journal of Radioanalytical and Nuclear Chemistry	66	0.17	29610	75.57	Netherlands
143	105	Journal of Chromatography A	65	0.17	29675	75.73	Netherlands
144	106	Proceedings of the National Academy of Sciences of the United States of America	64	0.16	29739	75.90	USA
145	106	ZavodskayaLaboratoriya	64	0.16	29803	76.06	Russian Federation
146	107	Analyst	63	0.16	29866	76.22	UK
147	107	Solar Energy Materials and Solar Cells	63	0.16	29929	76.38	Netherlands
148	108	Journal of Chemical Crystallography	62	0.16	29991	76.54	USA
149	108	Russian Chemical Reviews	62	0.16	30053	76.70	UK
150	109	Desalination	61	0.16	30114	76.85	Netherlands
151	109	FEMS Microbiology Letters	61	0.16	30175	77.01	UK
152	110	Environmental and Experimental Botany	60	0.15	30235	77.16	Netherlands
153	110	Stroke	60	0.15	30295	77.31	USA
154	110	Surface Technology	60	0.15	30355	77.47	Netherlands
155	111	Transactions of the American Electrochemical Society	59	0.15	30414	77.62	USA
156	112	Chemistry—A European Journal	58	0.15	30472	77.77	UK
157	112	Current Opinion in Chemical Biology	58	0.15	30530	77.91	Netherlands
158	112	Topics in Current Chemistry	58	0.15	30588	78.06	Germany
159	113	European Journal of Medicinal Chemistry	57	0.15	30645	78.21	France
160	113	PeriodicaPolytechnica Civil Engineering	57	0.15	30702	78.35	Hungary
161	114	Annual Review of Plant Biology	56	0.14	30758	78.50	USA
162	114	Journal of Non-Crystalline Solids	56	0.14	30814	78.64	Netherlands
163	114	Journal of Nutrition	56	0.14	30870	78.78	USA
164	114	Journal of Physiology and Pharmacology	56	0.14	30926	78.93	Poland
165	114	Polymer Journal	56	0.14	30982	79.07	UK
166	115	Journal of the Chemical Society, Dalton Transactions	55	0.14	31037	79.21	UK
167	115	Kinetics and Catalysis	55	0.14	31092	79.35	Russian Federation
168	115	Trends in Plant Science	55	0.14	31147	79.49	Netherlands
169	116	ChemischeBerichte	54	0.14	31201	79.63	UK
170	116	Journal of Physiology	54	0.14	31255	79.76	UK
171	116	Kidney International	54	0.14	31309	79.90	USA
172	116	Molecular Physics	54	0.14	31363	80.04	UK
173	116	Progress in Inorganic Chemistry	54	0.14	31417	80.18	USA
174	116	ZhurnalAnaliticheskoiKhimii	54	0.14	31471	80.32	USA
175	117	Applied Physics Letters	53	0.14	31524	80.45	USA
176	117	Bulletin of Materials Science	53	0.14	31577	80.59	India
177	117	Catalysis Letters	53	0.14	31630	80.72	Netherlands
178	117	Colloids and Surfaces	53	0.14	31683	80.86	Netherlands
179	118	Annals of the Entomological Society of America	52	0.13	31735	80.99	USA
180	118	Mineralogical Magazine	52	0.13	31787	81.12	UK
181	119	Agricultural and Biological Chemistry	51	0.13	31838	81.25	UK

182	119	Corrosion	51	0.13	31889	81.38	USA
183	119	International Journal of Agriculture and Biological Sciences	51	0.13	31940	81.51	Pakistan
184	119	Journal of Neurochemistry	51	0.13	31991	81.64	UK
185	119	New Journal of Chemistry	51	0.13	32042	81.77	UK
186	119	Water Research	51	0.13	32093	81.90	Netherlands
187	120	Physiologia Plantarum	50	0.13	32143	82.03	UK
188	121	Acta Chemica Scandinavica	49	0.13	32192	82.16	UK
189	121	Plant and Soil	49	0.13	32241	82.28	Netherlands
190	122	British corrosion journal	48	0.12	32289	82.40	UK
191	122	Journal of Solid State Electrochemistry	48	0.12	32337	82.53	Germany
192	123	Collection of Czechoslovak Chemical Communications	47	0.12	32384	82.65	Czech Republic
193	123	European Journal of Organic Chemistry	47	0.12	32431	82.77	Germany
194	123	Journal of Inorganic and Nuclear Chemistry	47	0.12	32478	82.89	Netherlands
195	123	Journal of Plant Growth Regulation	47	0.12	32525	83.01	USA
196	123	Materials Science and Engineering	47	0.12	32572	83.13	Netherlands
197	123	Methods in Enzymology	47	0.12	32619	83.25	USA
198	124	Progress in Polymer Science	46	0.12	32665	83.36	Netherlands
199	125	Acta Physiologica Scandinavica	45	0.11	32710	83.48	UK
200	125	Heterocyclic	45	0.11	32755	83.59	Japan
201	125	Inorganic Chemistry Letters	45	0.11	32800	83.71	Netherlands
202	126	Australian Journal of Chemistry	44	0.11	32844	83.82	Australia
203	126	Brain Research	44	0.11	32888	83.93	Netherlands
204	126	Journal of the American Oil Chemists	44	0.11	32932	84.04	Germany
205	126	Psychiatry Research	44	0.11	32976	84.16	Ireland
206	126	Zeitschrift für Kristallographie	44	0.11	33020	84.27	Germany
207	127	Archives Of General Psychiatry	43	0.11	33063	84.38	USA
208	127	Electroanalysis	43	0.11	33106	84.49	Germany
209	127	Insect Biochemistry and Molecular Biology	43	0.11	33149	84.60	UK
210	127	International Journal of Chemical Kinetics	43	0.11	33192	84.71	USA
211	127	Journal of the National Cancer Institute	43	0.11	33235	84.82	UK
212	127	Zeolites	43	0.11	33278	84.93	Netherlands
213	128	Biochemical Pharmacology	42	0.11	33320	85.03	Netherlands
214	128	Journal of Clinical Investigation	42	0.11	33362	85.14	USA
215	128	Journal of Parenteral and Enteral Nutrition	42	0.11	33404	85.25	USA
216	128	Plant & Cell Physiology	42	0.11	33446	85.36	UK
217	129	Applied and Environmental Microbiology	41	0.10	33487	85.46	USA
218	129	Biological Psychiatry	41	0.10	33528	85.57	Netherlands
219	129	Organic & Biomolecular Chemistry	41	0.10	33569	85.67	UK
220	129	Structure and Bonding	41	0.10	33610	85.77	Germany
221	129	Water Science and Technology	41	0.10	33651	85.88	UK
222	130	Bulletin of the Academy of Sciences of the USSR Division of Chemical Science	40	0.10	33691	85.98	USA
223	130	Dalton Transactions	40	0.10	33731	86.08	UK
224	130	Oxidation Communications	40	0.10	33771	86.19	Bulgaria
225	130	Proceedings of the Biological Science	40	0.10	33811	86.29	UK
226	131	Analytical Biochemistry	39	0.10	33850	86.39	USA
227	131	Catalysis Reviews	39	0.10	33889	86.49	USA
228	131	Journal of Chemical Research	39	0.10	33928	86.59	UK
229	132	Dyes and Pigments	38	0.10	33966	86.68	Netherlands
230	132	Neurology	38	0.10	34004	86.78	USA

231	132	Reaction Kinetics and Catalysis Letters	38	0.10	34042	86.88	Netherlands
232	133	Indian journal of technology	37	0.09	34079	86.97	India
233	133	Journal Of Chemical Technology And Biotechnology	37	0.09	34116	87.07	UK
234	133	Journal of General Physiology	37	0.09	34153	87.16	USA
235	133	Journal of Pharmaceutical Sciences	37	0.09	34190	87.26	USA
236	134	Asian Journal of Chemistry	36	0.09	34226	87.35	India
237	134	Denki Kagaku	36	0.09	34262	87.44	Japan
238	134	Discussions of the Faraday Society	36	0.09	34298	87.53	UK
239	134	European Polymer Journal	36	0.09	34334	87.62	UK
240	134	Physica	36	0.09	34370	87.71	Netherlands
241	135	American Journal of Clinical Nutrition	35	0.09	34405	87.80	USA
242	135	Annals of Botany	35	0.09	34440	87.89	UK
243	135	Clinica Chimica Acta	35	0.09	34475	87.98	Netherlands
244	135	Journal of American Chemical Society	35	0.09	34510	88.07	USA
245	135	Journal of the American Ceramic Society	35	0.09	34545	88.16	USA
246	135	Neuroscience	35	0.09	34580	88.25	Netherlands
247	135	Reviews in Analytical Chemistry	35	0.09	34615	88.34	Germany
248	135	Zhurnal Obshchei Khimii	35	0.09	34650	88.43	Russia
249	136	Journal of Inorganic and Organometallic Polymers	34	0.09	34684	88.52	USA
250	136	Medicinal Chemistry	34	0.09	34718	88.60	USA
251	136	Russian Journal of Organic Chemistry	34	0.09	34752	88.69	Russia
252	137	Archiv der Pharmazie	32	0.08	34784	88.77	Germany
253	137	Marine Pollution Bulletin	32	0.08	34816	88.85	UK
254	137	American Journal of Psychiatry	32	0.08	34848	88.93	USA
255	137	Journal of Clinical Immunology	32	0.08	34880	89.02	USA
256	137	Vignana Bharathi	32	0.08	34912	89.10	India
257	138	Arzneimittel-Forsch	31	0.08	34943	89.18	USA
258	138	Catalysis Communications	31	0.08	34974	89.26	Netherlands
259	138	Journal of Bacteriology	31	0.08	35005	89.33	USA
260	138	Journal of Immunology	31	0.08	35036	89.41	USA
261	138	Phosphorus, Sulfur, and Silicon and the Related Elements	31	0.08	35067	89.49	UK
262	138	Plant Journal	31	0.08	35098	89.57	UK
263	138	Seed Science and Technology	31	0.08	35129	89.65	Switzerland
264	139	American Journal of Clinical Pathology	30	0.08	35159	89.73	USA
265	139	Indian Journal of Pharmacology	30	0.08	35189	89.80	India
266	139	Journal of Molecular Biology	30	0.08	35219	89.88	USA
267	139	Molecules	30	0.08	35249	89.96	USA
268	139	Organometallic Chemistry Reviews	30	0.08	35279	90.03	UK
269	139	Synthesis and Reactivity in Inorganic and Metal-Organic Chemistry	30	0.08	35309	90.11	UK
270	139	Transactions of the Electrochemical Society	30	0.08	35339	90.19	India
271	139	Transactions of the Institution of Metal Finishing	30	0.08	35369	90.26	UK
272	140	Acta Physiologiae Plantarum	29	0.07	35398	90.34	Poland
273	140	Entomologia Experimentalis et Applicata	29	0.07	35427	90.41	UK
274	140	Indian Journal of Pharmaceutical Sciences	29	0.07	35456	90.49	India
275	140	International Journal of Cancer	29	0.07	35485	90.56	USA
276	140	Organometallic Chemistry	29	0.07	35514	90.63	UK
277	140	Polymer Engineering & Science	29	0.07	35543	90.71	USA

278	140	Russian Journal of Physical Chemistry	29	0.07	35572	90.78	Russia
279	141	Annual Review of Biochemistry	28	0.07	35600	90.85	USA
280	141	Industrial & Engineering Chemistry	28	0.07	35628	90.92	USA
281	141	Journal of Molecular Structure	28	0.07	35656	91.00	Netherlands
282	141	Journals of Gerontology	28	0.07	35684	91.07	UK
283	141	Pharmacopsychiatry	28	0.07	35712	91.14	Germany
284	141	Photosynthesis Research	28	0.07	35740	91.21	Netherlands
285	141	Vidya	28	0.07	35768	91.28	India
286	142	Advances in Organometallic Chemistry	27	0.07	35795	91.35	USA
287	142	Biotechnology and Bioengineering	27	0.07	35822	91.42	Germany
288	142	Drug Discovery Today	27	0.07	35849	91.49	Netherlands
289	142	Drug News & Perspectives	27	0.07	35876	91.56	Spain
290	142	Nano Letters	27	0.07	35903	91.63	USA
291	142	Organic synthesis	27	0.07	35930	91.70	USA
292	142	Organic Magnetic Resonance	27	0.07	35957	91.76	UK
293	142	Scientia Horticulturae	27	0.07	35984	91.83	Netherlands
294	143	General and Applied Plant Physiology	26	0.07	36010	91.90	Bulgeria
295	143	Journal of Chemical Reviews	26	0.07	36036	91.97	UK
296	143	Laser Chemistry	26	0.07	36062	92.03	USA
297	143	Neuropharmacology	26	0.07	36088	92.10	UK
298	143	Thermochemica Acta	26	0.07	36114	92.17	Netherlands
299	144	Arkivoc	25	0.06	36139	92.23	USA
300	144	Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B	25	0.06	36164	92.29	UK
301	144	Plating and surface finishing	25	0.06	36189	92.36	USA
302	145	Advances in Heterocyclic Chemistry	24	0.06	36213	92.42	USA
303	145	Bulletin of the Korean Chemical Society	24	0.06	36237	92.48	USA
304	145	Clinical Chemistry	24	0.06	36261	92.54	USA
305	145	JAMA: The Journal of the American Medical Association	24	0.06	36285	92.60	USA
306	145	Journal of Natural Products	24	0.06	36309	92.66	USA
307	145	Journal of the Pharmaceutical Society of Japan	24	0.06	36333	92.72	Japan
308	145	Proceedings of the Society for Experimental Biology and Medicine	24	0.06	36357	92.79	UK
309	145	Proceedings of the Indian Academy of Sciences	24	0.06	36381	92.85	India
310	146	Archives of Pharmacal Research	23	0.06	36404	92.91	South korea
311	146	Experimental Neurology	23	0.06	36427	92.96	USA
312	146	Food and Chemical Toxicology	23	0.06	36450	93.02	Netherlands
313	146	Heterocyclic Communications	23	0.06	36473	93.08	Germany
314	146	Nature Chemical Biology	23	0.06	36496	93.14	UK
315	146	Pesticide Biochemistry and Physiology	23	0.06	36519	93.20	USA
316	146	Photochemical & Photobiological Sciences	23	0.06	36542	93.26	UK
317	146	The International Journal of Pharmaceutics	23	0.06	36565	93.32	Netherlands
318	147	American Journal of Epidemiology	22	0.06	36587	93.37	USA
319	147	Australian Journal of Plant Physiology	22	0.06	36609	93.43	Australia
320	147	Crop science	22	0.06	36631	93.48	USA
321	147	International Journal of Biological Sciences	22	0.06	36653	93.54	Canada
322	147	Journal of Laboratory and Clinical	22	0.06	36675	93.60	Netherlands

		Medicine					
323	147	Journal of the Less Common Metals	22	0.06	36697	93.65	Netherlands
324	147	Microporous and Mesoporous Materials	22	0.06	36719	93.71	Netherlands
325	147	Nanostructured Materials	22	0.06	36741	93.77	UK
326	147	Surface and Coatings Technology	22	0.06	36763	93.82	Netherlands
327	148	Acta Materialia	21	0.05	36784	93.88	UK
328	148	Australian Journal of Crop Science	21	0.05	36805	93.93	Australia
329	148	ChemPhysChem	21	0.05	36826	93.98	Germany
330	148	Progress in Materials Science	21	0.05	36847	94.04	UK
331	148	Rubber Chemistry and Technology	21	0.05	36868	94.09	USA
332	148	Russian Chemical Bulletin	21	0.05	36889	94.14	Russia
333	148	Surface Science	21	0.05	36910	94.20	Netherlands
334	149	Archives internationales de pharmacodynamie et de therapie	20	0.05	36930	94.25	UK
335	149	Geomicrobiology Journal	20	0.05	36950	94.30	UK
336	150	Chinese Chemical Letters	19	0.05	36969	94.35	China
337	150	Geochimica et Cosmochimica Acta	19	0.05	36988	94.40	UK
338	150	Khimiko-Farmatsevticheskii Zhurnal	19	0.05	37007	94.44	Russia
339	150	Letters in Peptide Science	19	0.05	37026	94.49	USA
340	150	Quarterly Reviews	19	0.05	37045	94.54	UK
341	150	Reactivity of Solids	19	0.05	37064	94.59	Netherlands
342	151	Advances in Catalysis	18	0.05	37082	94.64	USA
343	151	American Journal of Veterinary Research	18	0.05	37100	94.68	USA
344	151	High performance polymer	18	0.05	37118	94.73	UK
345	151	Journal of Biosciences	18	0.05	37136	94.77	India
346	151	Neuroscience Letters	18	0.05	37154	94.82	Ireland
347	151	Trends in Biochemical Sciences	18	0.05	37172	94.87	Netherlands
348	152	Applied Microbiology and Biotechnology	17	0.04	37189	94.91	Germany
349	152	Journal of Biotechnology	17	0.04	37206	94.95	Netherlands
350	152	Monatshefte für Chemie	17	0.04	37223	95.00	Austria
351	152	Physica Status Solidi	17	0.04	37240	95.04	UK
352	152	Rasayan journal of chemistry	17	0.04	37257	95.08	India
353	152	Scientific American	17	0.04	37274	95.13	USA
354	153	British Journal of Industrial Medicine	16	0.04	37290	95.17	UK
355	153	Colloid and Polymer Science	16	0.04	37306	95.21	Germany
356	153	Die Pharmazie	16	0.04	37322	95.25	Germany
357	153	Fenxi huaxue	16	0.04	37338	95.29	China
358	153	Fertility and Sterility	16	0.04	37354	95.33	Netherlands
359	153	Research Communications Chemistry Pathology and Pharmacology	16	0.04	37370	95.37	USA
360	153	Zeitschrift für anorganische und allgemeine Chemie	16	0.04	37386	95.41	Germany
361	154	Acta Psychiatrica Scandinavica	15	0.04	37401	95.45	UK
362	154	Advances in neurology	15	0.04	37416	95.49	USA
363	154	Analytical Letters	15	0.04	37431	95.53	USA
364	154	Canadian Psychiatric Association	15	0.04	37446	95.56	Canada
365	154	Environment International	15	0.04	37461	95.60	UK
366	154	Journal of Cellular Physiology	15	0.04	37476	95.64	USA
367	154	Journal of Chemical Ecology	15	0.04	37491	95.68	USA
368	154	New England Journal of Medicine	15	0.04	37506	95.72	USA
369	154	Polish Journal of Chemistry	15	0.04	37521	95.76	Poland
370	154	Seed Science and Biotechnology	15	0.04	37536	95.79	UK

371	154	Water Environment Research	15	0.04	37551	95.83	USA
372	154	Advances in Drug Research	15	0.04	37566	95.87	USA
373	155	Anti-cancer drug design	14	0.04	37580	95.91	USA
374	155	Archives of neurology	14	0.04	37594	95.94	Switzerland
375	155	Free Radical Biology and Medicine	14	0.04	37608	95.98	Netherlands
376	155	Journal of Research of the National Institute of Standards and Technology	14	0.04	37622	96.01	USA
377	155	Journal of the Serbian Chemical Society	14	0.04	37636	96.05	Serbia
378	155	Magnetic Resonance in Chemistry	14	0.04	37650	96.09	UK
379	155	New Journal of Physics	14	0.04	37664	96.12	UK
380	155	Philosophical Magazine	14	0.04	37678	96.16	UK
381	155	Philosophical Transactions of the Royal Society of London	14	0.04	37692	96.19	UK
382	155	Reactive and Functional Polymers	14	0.04	37706	96.23	Netherlands
383	155	Russian Journal of Plant Physiology	14	0.04	37720	96.26	Russia
384	156	Advances in Enzymology	13	0.03	37733	96.30	USA
385	156	Anticancer Research	13	0.03	37746	96.33	Greece
386	156	ENVIS Bulletin Himalayan Ecology	13	0.03	37759	96.36	India
387	156	Indian Journal of Chemistry - B	13	0.03	37772	96.40	India
388	156	Indian Journal of Biochemistry and Biophysics	13	0.03	37785	96.43	India
389	156	Journal of the Research Institute for Catalysis, Hokkaido University	13	0.03	37798	96.46	Japan
390	156	Plant Physiology and Biochemistry	13	0.03	37811	96.50	Netherlands
391	156	Studies in Surface Science and Catalysis	13	0.03	37824	96.53	Netherlands
392	157	Anales de la Real Academia Nacional de Farmacia	12	0.03	37836	96.56	Spain
393	157	Annual reviews of plant physiology and plant molecular biology	12	0.03	37848	96.59	USA
394	157	British Journal of Applied Physics	12	0.03	37860	96.62	UK
395	157	Comprehensive Heterocyclic Chemistry	12	0.03	37872	96.65	Netherlands
396	157	International Journal of electrochemical science	12	0.03	37884	96.68	Serbia
397	157	Journal of electrochemical society	12	0.03	37896	96.71	USA
398	157	Journal of Industrial and Engineering Chemistry	12	0.03	37908	96.74	South Korea
399	157	Journal of Physical Organic Chemistry	12	0.03	37920	96.77	UK
400	157	Journal of the Chinese Chemical Society	12	0.03	37932	96.80	China
401	157	Photosynthetica	12	0.03	37944	96.84	Netherlands
402	157	Current Microbiology	12	0.03	37956	96.87	USA
403	158	Acta Endocrinologica	11	0.03	37967	96.89	Romania
404	158	Analytical Atomic Spectrometry	11	0.03	37978	96.92	UK
405	158	British Journal of Applied Science & Technology	11	0.03	37989	96.95	UK
406	158	Bulletin de la Société Chimique de France	11	0.03	38000	96.98	UK
407	158	Crystal Growth & Design	11	0.03	38011	97.01	USA
408	158	Current Medicinal Chemistry	11	0.03	38022	97.03	UAE
409	158	Folia Microbiology	11	0.03	38033	97.06	Netherlands
410	158	Journal of Agronomy and Crop Science	11	0.03	38044	97.09	UK
411	158	Journal of Biomedical Materials Research	11	0.03	38055	97.12	USA
412	158	Journal of Experimental Medicine	11	0.03	38066	97.15	USA
413	158	Journal of Indian Chemical Engineer	11	0.03	38077	97.17	India

414	158	Molecular Endocrinology	11	0.03	38088	97.20	USA
415	158	Structural Chemistry	11	0.03	38099	97.23	USA
416	159	Acta Neurologica Scandinavica	10	0.03	38109	97.26	Austria
417	159	Advances in Chemistry Series	10	0.03	38119	97.28	USA
418	159	Anales de Quimica	10	0.03	38129	97.31	Spain
419	159	Biochemistry	10	0.03	38139	97.33	USA
420	159	Environmental Research	10	0.03	38149	97.36	USA
421	159	Journal of Environmental Engineering	10	0.03	38159	97.38	USA
422	159	Journal of Inorganic chemistry	10	0.03	38169	97.41	USA
423	159	Polymer Materials Science and Engineering	10	0.03	38179	97.44	Saudi Arabia
424	160	Archives of Toxicology	9	0.02	38188	97.46	Germany
425	160	Chemical Research	9	0.02	38197	97.48	UK
426	160	Chemistry in Britain	9	0.02	38206	97.50	UK
427	160	CrystEngComm	9	0.02	38215	97.53	UK
428	160	Current Opinion in Plant Biology	9	0.02	38224	97.55	Netherlands
429	160	European Journal of Cancer and Clinical Oncology	9	0.02	38233	97.57	UK
430	160	European Journal of Pharmaceutical Sciences	9	0.02	38242	97.60	Netherlands
431	160	Ferroelectrics	9	0.02	38251	97.62	Switzerland
432	160	Indian Journal of Chemical Technology	9	0.02	38260	97.64	India
433	160	Inorganic Syntheses	9	0.02	38269	97.66	UK
434	160	Journal of Andrology	9	0.02	38278	97.69	USA
435	160	Journal of Fluorescence	9	0.02	38287	97.71	USA
436	160	Materials Research Society	9	0.02	38296	97.73	USA
437	160	Veterinary Immunology and Immunopathology	9	0.02	38305	97.76	Netherlands
438	160	Yukagaku	9	0.02	38314	97.78	Japan
439	161	Acta Agronomica Sinica	8	0.02	38322	97.80	Netherlands
440	161	Acta Physiologica	8	0.02	38330	97.82	UK
441	161	American Mineralogist	8	0.02	38338	97.84	USA
442	161	Annual Review of Materials Research	8	0.02	38346	97.86	USA
443	161	Applied Physics A	8	0.02	38354	97.88	Germany
444	161	Canadian Journal of Research	8	0.02	38362	97.90	Canada
445	161	Chromatography A.	8	0.02	38370	97.92	Netherlands
446	161	Critical Reviews in Plant Sciences	8	0.02	38378	97.94	UK
447	161	Environmental Pollution	8	0.02	38386	97.96	UK
448	161	Journal of Combinatorial Chemistry	8	0.02	38394	97.98	USA
449	161	Journal of the Chemical Society. Perkin Transactions	8	0.02	38402	98.00	UK
450	161	Trends in Pharmacological Sciences	8	0.02	38410	98.02	Netherlands
451	161	World Applied Sciences Journal	8	0.02	38418	98.05	Pakistan
452	161	Xiyoujinshu	8	0.02	38426	98.07	China
453	162	Acta Pharmacologica et Toxicologica	7	0.02	38433	98.08	China
454	162	Acta physicochimica	7	0.02	38440	98.10	Russia
455	162	Annalen der Chemie und Pharmacie	7	0.02	38447	98.12	Germany
456	162	Applied Surface Science	7	0.02	38454	98.14	Netherlands
457	162	Chemical Geology	7	0.02	38461	98.15	Netherlands
458	162	European Journal of Chemistry	7	0.02	38468	98.17	UK
459	162	International Journal of Chemical Kinetics	7	0.02	38475	98.19	USA
460	162	Journal of Antibiotics	7	0.02	38482	98.21	UK
461	162	Journal of Computational Chemistry	7	0.02	38489	98.23	USA

462	162	Journal of Enzyme Inhibition and Medicinal Chemistry	7	0.02	38496	98.24	UK
463	162	Journal Of Plant Biology	7	0.02	38503	98.26	USA
464	162	Journal of International Medical Research	7	0.02	38510	98.28	UK
465	162	Oriental Journal of Chemistry	7	0.02	38517	98.30	India
466	162	Reviews in Heteroatom Chemistry	7	0.02	38524	98.32	Japan
467	163	African Journal Of Biotechnology	6	0.02	38530	98.33	Nigeria
468	163	Biological Chemistry	6	0.02	38536	98.35	Germany
469	163	Bioresource Technology	6	0.02	38542	98.36	Netherlands
470	163	Bulletin of Electrochemistry	6	0.02	38548	98.38	India
471	163	Canadian Journal of Physics	6	0.02	38554	98.39	Canada
472	163	Chemistry & industry	6	0.02	38560	98.41	USA
473	163	Current Opinion in Biotechnology	6	0.02	38566	98.42	Netherlands
474	163	Journal of Environmental Science and Health	6	0.02	38572	98.44	USA
475	163	Journal of Industrial Microbiology and Biotechnology	6	0.02	38578	98.45	Germany
476	163	Journal of Materials Research	6	0.02	38584	98.47	UK
477	163	Journal of physical and colloid chemistry	6	0.02	38590	98.48	USA
478	163	Journal of Porous Materials	6	0.02	38596	98.50	Netherlands
479	163	Journal of the Kansas Entomological Society	6	0.02	38602	98.51	USA
480	163	Journal of Molecular Catalysis A: Chemical	6	0.02	38608	98.53	China
481	163	Chemical Engineering and Processing: Process Intensification	6	0.02	38614	98.55	Netherlands
482	163	Journal of Applied Polymer Science	6	0.02	38620	98.56	USA
483	163	Molecular Crystals and Liquid Crystals	6	0.02	38626	98.58	UK
484	163	Polymer Testing	6	0.02	38632	98.59	UK
485	163	ZeitschriftfürElektrochemie	6	0.02	38638	98.61	Germany
486	163	ZeitschriftfürNaturforschung	6	0.02	38644	98.62	Germany
487	164	Advances in Polymer Science	5	0.01	38649	98.63	USA
488	164	Agronomy and Crop Science	5	0.01	38654	98.65	UK
489	164	Analytical sciences	5	0.01	38659	98.66	Japan
490	164	Archives of Environmental & Occupational Health	5	0.01	38664	98.67	USA
491	164	Biochemical Society Transactions	5	0.01	38669	98.69	UK
492	164	Biochemistry and Molecular Biology International Journal	5	0.01	38674	98.70	USA
493	164	Biology of the Neonate	5	0.01	38679	98.71	Switzerland
494	164	Current Chemistry Letters	5	0.01	38684	98.72	Canada
495	164	Canadian Journal of Physiology and Pharmacology	5	0.01	38689	98.74	Canada
496	164	environmental toxicology and chemistry	5	0.01	38694	98.75	USA
497	164	Indian Journal of Chemistry - A	5	0.01	38699	98.76	India
498	164	International Journal of Obesity	5	0.01	38704	98.78	UK
499	164	Journal of General Virology	5	0.01	38709	98.79	UK
500	164	Journal of Materials Science	5	0.01	38714	98.80	UK
501	164	Journal of Photochemistry and Photobiology A	5	0.01	38719	98.81	Netherlands
502	164	Journal of Physical chemistry B	5	0.01	38724	98.83	USA
503	164	LiebigsAnnalen	5	0.01	38729	98.84	Germany
504	164	Organometallics	5	0.01	38734	98.85	USA

505	164	Physical review letters	5	0.01	38739	98.86	USA
506	164	Polish Journal of Environmental Studies	5	0.01	38744	98.88	Poland
507	164	Polymers for Advanced Technologies	5	0.01	38749	98.89	UK
508	165	229 Title of Journals Cited 435 Times	435	1.11	39184	100	
		Total	39184	100			

Table-3 Shows ranked list of core periodicals in chemistry. Out of 736 periodicals 507 periodicals were identified from the study with 5 times cited by the researchers. The Journal of the American Chemical Society occupied with first rank with 1868 (4.77%) citations, followed by 'Journal of Organic Chemistry'

second rank with 1561 (3.98%) citations. 'Tetrahedron Letters' third rank with 1061 (2.71%) citations and fourth rank is 'Acta Crystallographica' with 686 (1.75%) and fifth Rank 'Journal of Physical Chemistry' with 669 (1.71%) and respectively.

Table 4: List of Periodicals Holdings Referred by Researcher in Host Library Collections

SL No	Rank No	Country of Origin	Journal Name	Periodical Holdings (Vol & Year of Subscriptions)
1	1	USA	Journal of the American Chemical Society	38, 1916
2	2	USA	Journal of Organic Chemistry	59, 1994
3	3	UK	Tetrahedrons Letters	26, 1968
4	4	USA	Acta Crystallographica	22, 1967
5	5	USA	Journal of Physical Chemistry	49, 1945
6	6	UK	Journal of Materials Chemistry	16, 1971
7	7	USA	Journal of the Electrochemical Society	107, 1960
8	8	USA	Chemistry of Materials	11, 1980
9	9	UK	Journal of the Chemical Society	26, 1965
10	10	USA	Journal of Biological Chemistry	67, 1958
11	11	USA	Journal of Medicinal Chemistry	20, 1977
12	13	Netherlands	Journal of Organometallic Chemistry	13, 1968
13	14	USA	Chemical Reviews	85, 1973
14	15	USA	Inorganic Chemistry	06, 1967
15	17	USA	Journal of Catalysis	13, 1969
16	19	Germany	International Journal of Peptide Research and Therapeutics	9, 1977
17	20	Germany	Synthesis	2004, (Since 2004 UGC INFONET)
18	21	Netherlands	Journal of Electroanalytical Chemistry	561, (Since 2004 UGC INFONET)
19	23	USA	Plant Physiology	32, 1957
20	24	China	Journal of Molecular Catalysis A: Chemical	13, 1969
21	25	USA	Science	104, 1946
22	26	USA	Journal of Solid-State Chemistry	21, 1968
23	27	UK	Electrochimica Acta	22, 1977
24	28	USA	Tetrahedron	26, 1970
25	29	USA	Journal of Chemical Physics	74, 1933
26	30	UK	Chemical Communications	3, 1967
27	31	UK	Biochemical Journal	75, 1960
28	32	USA	Analytical Chemistry	20, 1948
29	33	Netherlands	Inorganic Chemistry Communications	03, 1967
30	34	UK	Angewandte Chemie	9, 1970
31	36	USA	Journal of Magnetic Resonance	166, (Since 2004 UGC

				INFONET)
32	38	USA	Physical Review	24, 1968
33	39	UK	Bioorganic and Medicinal Chemistry Letters	14,(Since 2004 UGC INFONET)
34	41	Netherlands	Synthetic Metals	20, 1979
35	42	Netherlands	Transition Metal Chemistry	29,(Since 2004 UGC INFONET)
36	43	UK	Journal of the Chemical Society, Chemical Communications	75, 1973
37	45	USA	Organic Letters	24, 1967
38	47	USA	Cancer Research	64,(Since 2004 UGC INFONET)
39	48	USA	Journal of Applied Physics	10, 1939
40	50	Netherlands	European Journal of Pharmacology	483,(Since 2004 UGC INFONET)
41	53	UK	Journal of Biochemistry	135,(Since 2004 UGC INFONET)
42	55	USA	Langmuir	20,(Since 2004 UGC INFONET)
43	59	USA	Accounts of Chemical Research	37,(Since 2004 UGC INFONET)
44	60	India	International Journal of Chemistry Research and Development	02,(Since 2004 UGC INFONET)
45	60	USA	Helvetica Chimica Acta	16, 1933
46	61	India	Journal of the Indian Chemical Society	13, 1963
47	62	UK	Phytochemistry	11, 1972
48	63	India	Current Science	60, 1932
49	64	Netherlands	Chemical Physics Letters	8, 1986
50	66	Netherlands	Solid State Ionics	166,(Since 2004 UGC INFONET)
51	68	UK	Journal of Experimental Botany	9, 1950
52	69	USA	Archives of Biochemistry and Biophysics	24, 1967
53	70	UK	Polyhedron	9, 1982
54	71	UK	Corrosion Science	8, 1968
55	72	USA	Proceedings of the National Academy of Sciences	33, 1947
56	72	USA	Environmental Science & Technology	35, 1953
57	73	USA	Molecular Pharmacology	56, 1977
58	74	UK	Transactions of the Faraday Society	68, 1972
59	77	USA	Journal of Agricultural and Food Chemistry	52,(Since 2004 UGC INFONET)
60	78	UK	Chemical Society Reviews	85, 1985
61	80	USA	Synthetic Communications.	34, (Since 2004 UGC INFONET)
62	81	UK	Green Chemistry	2004,(Since 2004 UGC INFONET)
63	84	UK	Molecular Crystals and Liquid Crystals	408,(Since 2004 UGC INFONET)
64	84	India	Indian Journal of Experimental Biology	23, 1985
65	85	UK	Physical Chemistry Chemical Physics	06,(Since 2004 UGC INFONET)
66	86	Netherlands	Journal of Applied Electrochemistry	34,(Since 2004 UGC

				INFONET)
67	86	Netherlands	Spectrochimica Acta	33, 1977
68	88	Switzerland	BiologiaPlatarum	48,(Since 2004 UGC INFONET)
69	89	Netherlands	Journal of Thermal Analysis and Calorimetry	78,(Since 2004 UGC INFONET)
70	91	UK	Journal of Applied Crystallography	2, 1969
71	91	UK	Carbohydrate Research	9, 1969
72	93	USA	Journal of Chemical Education	62, 1924
73	94	UK	Liquid Crystals	31,(Since 2004 UGC INFONET)
74	95	Switzerland	Microchimica Acta	144,(Since 2004 UGC INFONET)
75	95	Netherlands	Plant Molecular Biology	18, 1967
76	96	UK	British Journal of Pharmacology	141,(Since 2004 UGC INFONET)
77	97	USA	Journal of Inorganic Biochemistry	98,(Since 2004 UGC INFONET)
78	97	Netherlands	Journal of Plant Pathology	48, 1969
79	98	USA	Journal of the Science of Food and Agriculture	19, 1968
80	100	UK	New Phytologist	19, 1920
81	103	UK	Journal of Applied Chemistry	21, 1971
82	104	USA	Journal of Applied Polymer Science	91,(Since 2004 UGC INFONET)
83	104	Netherlands	Journal of Radioanalytical and Nuclear Chemistry	259,(Since 2004 UGC INFONET)
84	104	Switzerland	Human Heredity	3, 1954
85	106	USA	Journal of Applied Polymer Science	91,(Since 2004 UGC INFONET)
86	106	USA	Proceedings of the National Academy of Sciences of the United States of America	33, 1947
87	107	Netherlands	Solar Energy Materials and Solar Cells	22, 1979
88	108	USA	Journal of Chemical Crystallography	13, 1969
89	109	UK	FEMS Microbiology Letters	230,(Since 2004 UGC INFONET)
90	114	Poland	Journal of Physiology and Pharmacology	55,(Since 2004 UGC INFONET)
91	114	USA	Annual Review of Plant Biology	55,(Since 2004 UGC INFONET)
92	114	USA	Journal of Nutrition	94, 1968
93	115	Russian Federation	Kinetics and Catalysis	45,(Since 2004 UGC INFONET)
94	115	Netherlands	Trends in Plant Science	9,(Since 2004 UGC INFONET)
95	115	UK	Journal of the Chemical Society, Dalton Transactions	01, 1966
96	116	UK	Molecular Physics	102,(Since 2004 UGC INFONET)
97	116	UK	Chemische Berichte	43, 1910
98	117	USA	Applied Physics Letters	85,(Since 2004 UGC INFONET)

99	117	Netherlands	Catalysis Letters	92,(Since 2004 UGC INFONET)
100	117	India	Bulletin of Materials Science	01, 1980
101	119	UK	New Journal of Chemistry	28(Since 2004 UGC INFONET)
102	120	UK	Physiologia Plantarum	39, 1977
103	121	Netherlands	Plant and Soil	1, 1949
104	122	Germany	Journal of Solid State Electrochemistry	8(Since 2004 UGC INFONET)
105	123	USA	Journal of Plant Growth Regulation	03, 1977
106	123	Netherlands	Journal of Inorganic and Nuclear Chemistry	30, 1968
107	126	Germany	Journal of the American Oil Chemists	81, (Since 2004 UGC INFONET)
108	127	UK	Journal of the National Cancer Institute	96,(Since 2004 UGC INFONET)
109	128	UK	Plant & Cell Physiology	18, 1977
110	129	UK	Organic & Biomolecular Chemistry	02, (Since 2004 UGC INFONET)
111	130	UK	Dalton Transactions	01, 1966
112	131	USA	Catalysis Reviews	46, (Since 2004 UGC INFONET)
113	131	USA	Analytical Biochemistry	20, 1948
114	133	USA	Journal of Pharmaceutical Sciences	93,(Since 2004 UGC INFONET)
115	133	UK	Journal of Chemical Technology And Biotechnology	01, 1994
116	134	UK	Discussions of the Faraday Society	41, 1947
117	135	Germany	Reviews in Analytical Chemistry	20, 1948
118	135	UK	Annals of Botany	74, 1937
119	136	Russia	Russian Journal of Organic Chemistry	40,(Since 2004 UGC INFONET)
120	136	USA	Journal of Inorganic and Organometallic Polymers	13, 1968
121	136	USA	Medicinal chemistry	20, 1977
122	137	USA	Journal of Clinical Immunology	24(Since 2004 UGC INFONET)
123	138	UK	Phosphorus, Sulfur, and Silicon and the Related Elements	179(Since 2004 UGC INFONET)
124	138	USA	Journal of Bacteriology	129, 1977
125	140	Russia	Russian Journal of Physical Chemistry	78(Since 2004 UGC INFONET)
126	140	UK	Organometallic Chemistry	13, 1968
127	140	Poland	Acta Physiologiae Plantarum	39, 1977
128	141	Netherlands	Photosynthesis Research	79(Since 2004 UGC INFONET)
129	141	UK	Journals of Gerontology	59,(Since 2004 UGC INFONET)
130	141	USA	Industrial & Engineering Chemistry	19, 1927
131	141	USA	Annual Review of Biochemistry	54, 1985
132	142	USA	Nano Letters	04,(Since 2004 UGC INFONET)
133	143	Netherlands	Thermochimica Acta	409(Since 2004 UGC

				INFONET)
134	143	Bulgeria	General and Applied Plant Physiology	32, 1957
135	143	UK	Journal of Chemical Reviews	85, 1985
136	145	USA	Journal of Natural Products	67,(Since 2004 UGC INFONET)
137	145	India	Proceedings of the Indian Academy of Sciences	89, 1980
138	146	UK	Photochemical & Photobiological Sciences	04,(Since 2004 UGC INFONET)
139	147	USA	American Journal of Epidemiology	159,(Since 2004 UGC INFONET)
140	148	Netherlands	Surface Science	500,(Since 2004 UGC INFONET)
141	148	Russia	Russian Chemical Bulletin	53,(Since 2004 UGC INFONET)
142	149	UK	Geomicrobiology Journal	21,(Since 2004 UGC INFONET)
143	150	China	Chinese Chemical Letters	14,(Since 2004 UGC INFONET)
144	150	UK	Quarterly Reviews	14, 1985
145	151	India	Journal of Biosciences	01, 1979
146	152	Austria	MonatsheftefürChemie	135,(Since 2004 UGC INFONET)
147	152	Germany	Applied Microbiology and Biotechnology	63,(Since 2004 UGC INFONET)
148	152	Netherlands	Journal of Biotechnology	107,(Since 2004 UGC INFONET)
149	153	Germany	Colloid and Polymer Science	282,(Since 2004 UGC INFONET)
150	153	UK	British Journal of Industrial Medicine	74,(Since 2004 UGC INFONET)
151	154	USA	Analytical Letters	37,(Since 2004 UGC INFONET)
152	154	USA	Water Environment Research	76,(Since 2004 UGC INFONET)
153	154	USA	Journal of Chemical Ecology	39, 1920
154	155	UK	Philosophical Magazine	37, 1978
155	155	UK	Philosophical Transactions of the Royal Society of London	46, 1924
156	156	India	Indian Journal of Chemistry - B	14, 1976
157	156	India	Indian Journal of Biochemistry and Biophysics	22, 1985
158	157	China	Journal of the Chinese Chemical Society	51,(Since 2004 UGC INFONET)
159	157	USA	Current Microbiology	48,(Since 2004 UGC INFONET)
160	157	Netherlands	Photosynthetica	42,(Since 2004 UGC INFONET)
161	157	South Korea	Journal of Industrial and Engineering Chemistry	19, 1927
162	157	UK	Journal of Physical Organic Chemistry	74, 1978
163	158	UK	Analytical Atomic Spectrometry	19,(Since 2004 UGC

				INFONET)
164	158	USA	Crystal Growth & Design	04,(Since 2004 UGC INFONET)
165	159	USA	Journal of Inorganic chemistry	98,(Since 2004 UGC INFONET)
166	159	USA	Biochemistry	05, 1967
167	160	Switzerland	Ferroelectrics	298,(Since 2004 UGC INFONET)
168	160	USA	Journal of Fluorescence	14,(Since 2004 UGC INFONET)
169	160	UK	Chemical Research	2004, (Since 2004 UGC INFONET)
170	160	Netherlands	Current Opinion in Plant Biology	07,(Since 2004 UGC INFONET)
171	160	UK	CrystEngComm	06,(Since 2004 UGC INFONET)
172	160	India	Indian Journal of Chemical Technology	01, 1994
173	160	UK	Chemistry in Britain	2, 1966
174	160	Germany	Archives of Toxicology	48, 1988
175	161	USA	Annual Review of Materials Research	34,(Since 2004 UGC INFONET)
176	161	Germany	Applied Physics A	55, 1939
177	161	UK	Journal of the Chemical Society. Perkin Transactions	74, 1978
178	161	UK	Critical Reviews in Plant Sciences	89, 1980
179	162	USA	Journal of Plant Biology	47,(Since 2004 UGC INFONET)
180	162	Netherlands	Chemical Geology	03, 1968
181	163	UK	Molecular Crystals and Liquid Crystals	408,(Since 2004 UGC INFONET)
182	163	USA	Journal of the Kansas Entomological Society	77,(Since 2004 UGC INFONET)
183	163	Netherlands	Journal of Porous Materials	11,(Since 2004 UGC INFONET)
184	163	Germany	Journal of Industrial Microbiology and Biotechnology	31,(Since 2004 UGC INFONET)
185	163	USA	Chemistry & Industry	20, 1957
186	164	USA	Organometallics	23,(Since 2004 UGC INFONET)
187	164	USA	Physical review letters	01, 1958
188	164	UK	Journal of General Virology	09, 1993
189	164	India	Indian Journal of Chemistry - A	14, 1976
190	164	USA	Journal of Physical Chemistry-B	49, 1945

Table-4 Indicates the number of periodical holdings of host library collections. It can be compared with rank list of core periodicals. There are 507 periodicals were ranked with 5 times cited and It can noticed that total of 190 periodicals were subscribed by host library with (37.47%).

Table-5 Country wise Distribution of Host Library Periodical Collections

Sl. No.	Name of Country	No of Journals	%
1	USA	69	36.32
2	UK	57	30.00

3	Netherlands	27	14.21
4	India	11	5.79
5	Germany	10	5.26
6	Russia	4	2.11
7	Switzerland	4	2.11
8	China	3	1.58
9	Poland	2	1.05
10	Austria	1	0.53
11	Bulgaria	1	0.53
12	South Korea	1	0.53
	Total	190	100

10	91-100	11
11	101-110	9
12	111-120	13
13	121-130	9
14	131-140	16
15	141-150	17
16	151-160	30
17	161-164	16
	Total	190

Table 6 Indicates ranked periodicals of host library collections. The data were grouped into 10 rank range. Result shows that the highest percentage of periodical availability is 30 for the rank ranged between (151-160), followed by 17, (141-150) and 16, (131-140) rank range respectively.

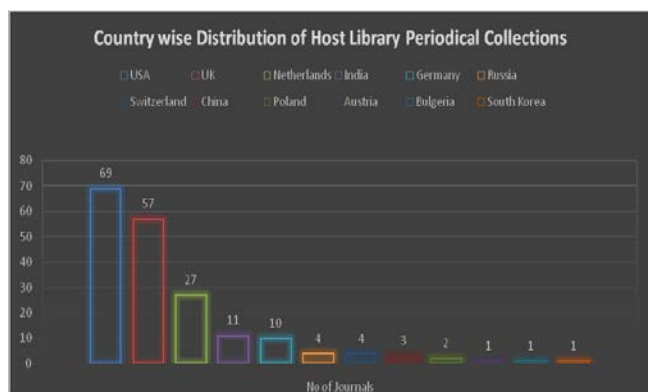


Figure-2 Country wise Distribution of Host Library Periodical Collections

Table-5 Presents country wise distribution of the host library subscribed periodicals. The study revealed that USA occupied the first place with 69(36.32%) periodical publications. UK got second rank with 57 (30.00 %) of total publications followed by Netherlands with 27(14.21%) and respectively.

Table 6: Ranked Distribution of Periodical Collection of Host Library

Sl No.	Periodical Group Rank	No of Periodicals
1	1-10	10
2	11-20	7
3	21-30	9
4	31-40	7
5	41-50	7
6	51-60	5
7	61-70	8
8	71-80	8
9	81-90	8

FINDINGS OF THE STUDY

- It is observed from table-2 that the periodicals were highly cited by researchers.
- Table 3 shows the highest 39184 (74.48%) cited journals by researchers, "The Journal of the American Chemical Society" occupied with first rank with 1868 (4.77%) citations, followed by "Journal of Organic Chemistry" second rank with 1561 (3.98%) citations. 'Tetrahedron Letters' third rank with 1061 (2.71%) citations
- It is found that the periodicals of host library subscribed with 190 (37.47%) periodicals out of 507 titles.
- Country-wise distribution of host library periodical collections reveals that USA get first rank with 69 (36.32%) Periodicals followed by UK 57(30%) and Netherlands 27 (14.21%) respectively.

CONCLUSION

Citation study is useful tool for both librarians and researchers for collection development of periodicals and to subscribe relevant library resources. The study will support in collection development decision making and also helps user to use library collections effectively.

REFERENCES

- [1.] Byrd, G D., D A, Thomas, and K E, Hughes (1982), Collection development using interlibrary loan borrowing and acquisitions statistics, *Bulletin of the Medical Library Association*, 70(1), 1-9.
- [2.] Garfield, Eugene.(1983). Citation Indexing. Its and application in science, Technology and Humanities. Philadelphia: ISI Press.
- [3.] Haycock, L.A. (2004). Citation Analysis of Education Dissertations for Collection Development, *Library Resources & Technical Services*, 48(2), 102–106.
- [4.] Jean S. Johnson (1987). Collection management for off-campus library services, *Library Acquisitions: Practice & Theory*, 11(1), 75-84.
- [5.] Jeffery M, Mortimore (2005) Access-Informed Collection Development and the Academic Library, *Collection Management*, 30(3), 21-37.
- [6.] Julie M. Hurd, Martin J. Brennan, Deborah D. Blecic, Ann C. Weller (2002)., A Snapshot of Early Adopters of E-journals: Challenges to the Library, *College & Research Libraries (COLL RES LIBR)*, 63(10).
- [7.] Louise S. Zipp (1996). Thesis and Dissertation Citations as Indicators of Faculty Research Use of University Library *Journal Collections, Library Resources and Services*, 40(4).
- [8.] Padmavathi, N & Veerabasavaiah, M. (2014). Study of Citation Analysis and Its Implications for Collection Development, *Journal of Library and Information Technology*, 3(2), 75-88.