

Library

Ph.D Course Work

Semester	Paper Code	Course Title	Credits	Total	
Core Courses					
I	17LISR0101	Recent Trends in Library and Information Science	4	24	
	17LISR0102	Information Use and User Studies	4		
	17LISR0103	Metric Studies in Library and Information Science	4		
	17LISR0104	Research Methodology in Library and Information Science	4		
II	17APRR0202	Quantitative Techniques	4		
	17LISR02SX	Specific course to be prescribed by the Doctoral Committee	4		
Seminar (3) Term paper/Topical Research					
III Semester onwards	Research Credits		4		
	a)Project planning including literature collection, finalization of objectives and methodology b) Field/ Lab Studies, Data collection, compilation of results, statistical analysis, results and final conclusion.		32		
End of Program	Synopsis and thesis submission, final viva		6		

List of courses that are candidate centric (17LISR02SX)

17LISR02S1	Information Communication Technology in Library and Information Science
17LISR02S2	Information Resources and Resource Sharing
17LISR02S3	Knowledge Management

17LISR0101 Recent Trends in Library and Information Science Credit: 4

Learning Objective:

- To know basic concepts and currents in Library and Information Science.
- Technological Advancement in Library and Information Science

Learning outcome

- Know about the latest trends in Library and Information Science
- Application of Technologies in Libraries

Unit - I

ICT : Concept, meaning and definitions; Component of ICT; Application of ICT in Library and Information Centres; Web 2.0 and Library 2.0; Social Networking.

Unit- II

Networking: Need - Purpose – Types – LAN, WAN, MAN, Topologies — Important Networks in India – NICNET, INDONET, INFLIBNET, DELNET etc

Unit – III

Library Automation – Need for automation – House Keeping Operations – Integrated Library Management System - Automation Packages - SOUL, LIBSYS, KOHA, etc, Data Security System - RFID, 3M Electromagnetic (EM) Library Detection System, etc

Unit - IV

Digitization - issues involved in Digitization- Digital Library Initiatives. Strategic Management of Digital Libraries – Challenges for Digital Library – Open Source Software-, GSDL, DSpace, EPrint, etc- Intellectual Property Rights related Digitization

Unit - V

Resource Sharing - Historical Development Need for – Resource Sharing. Tools for Resource Sharing – Barriers – Library Consortium – Concepts – Need - Types of Consortium- Consortium Initiatives in India - e-ShodhSindhu Consortium

Books

1. Satyanarayana, R. (2005). Information Technology and its facets. Delhi, Manak.
2. Prasad, Kiran. (2004). Information and Communication Technology. New Delhi: B.R. Publishers.
3. Bradley, Phil. (2007). How to use web 2.0 in your library. London: Facet Publishing.
4. Kroski, Ellyssa. (2008). Web 2.0 for librarians and information professionals. New York: Neal Schuman Publishers.
5. Moorthy, T.A. and Jain, S.P. (1998). Network Access to electronic Documents and its copyright Implications, FID conference proceedings, New Delhi, INSDOC.
6. Haravu, L.J. (2004). Library automation: design, principles and practice. New Delhi: Allied Publishers.
7. INFLIBNET. (2003). Software for university libraries user manual. Ahmedabad: INFLIBNET.
8. Savitra, Sirohi and Gupta, Amit. (2011). Koha 3 Library Management System. Mumbai: Packet Publishing.
9. Chowdhury, G.G. (2003). Introduction to Digital Libraries. London: Facet.
10. Vijay Lakshmi and Jindal, S.C. (2004). Digital Libraries, V1,V2, & V3. Delhi, Isha Books.
11. Cox, Andrew. (2010). Introduction to Digital Library Management. London: Facet Publishing.
12. Pedley. Paul (2007). Digital Copyright. Ed2. London: Facet.

Websites

13. <https://sourceforge.net/projects/newgenlib/files/NewGenLib/version2.5/UserManualAllModules.pdf/download>
14. www.dspace.org/
15. www.greenstone.org/
16. www.eprints.rclis.org/
17. <https://ndl.iitkgp.ac.in/>

Journals

18. Library & Information Science Research, Elsevier Science, Inc.
19. Library Hi Tech, Emerald Group Publishing Ltd.
20. International Journal on Digital Libraries, Springer Verlag.

17LISR0102

Information Use and User Studies

Credit: 4

Learning Objective:

- To know basic concepts and currents in Library and Information Science.
- Technological Advancement in Library and Information Science

Learning outcome

- Know about the latest trends in Library and Information Science
- Application of Technologies in Libraries

Unit - I

Information Needs: Concept, meaning and definitions; Information use pattern of users; Types of Information users - Academic, Public and Special Libraries; Understanding the psychology of different types of information users.

Unit - II

User studies: concept, meaning and definitions; Need and significance of user studies; Types of user studies; Major user studies conducted in India, UK and USA; Problems and issues of user studies.

Unit - III

Information Seeking Behaviour (ISB): Concept, meaning and definitions; ISB Models - David Ellis and T.D. Wilson models, Electronic Information Seeking Behaviour Models - Kuhithau's Information Search Process and Gary Marchionini's models.

Unit - IV

Methods and Techniques of user studies: Questionnaire, Interview and Observation methods: Advantages and limitations of different methods of user studies.

Unit V

Evaluation of user studies : Need and purpose of user evaluation; Methods of user evaluation; Criteria used for Evaluation of user studies.

Books

1. Kumar, PSG. (2006). Use and User studies Publication. New Delhi : BR Publication.
2. Kumar, PSG. (2004). Library and users: Theory and Practice, New Delhi: BR Publishers.
3. Sridhar, MS. (2002). Library use and user research (with twenty case studies), New Delhi: Concept Publishing Company.
4. Ian Ruthven, Diane Kelly. (2011). Interactive Information Seeking, Behaviour and Retrieval, London : Facet Publishing.
5. Kumar, PSG. (2002) A student's Manual of Library and Information Science. New Delhi: BR Publishers.
6. Laloo, Bikika, T. (2002). Information Needs, Information Seeking behaviour and users. New Delhi : Ess Ess Publications.

Journals

8. Reference and User Services quarterly, ALA
9. Information Service and Use, IOS Press

Websites

10. <http://portal.unesco.org/edu>
11. <http://www.ifla.org>
12. https://en.wikipedia.org/wiki/Information_seeking_behavior

17LISR0103 Metric Studies in Library and Information Science

Credits: 4

Learning Objective:

- To know basic concepts and currents in Library and Information Science.
- Technological Advancement in Library and Information Science

Learning outcome

- Know about the latest trends in Library and Information Science
- Application of Technologies in Libraries

Unit - I

Metric Studies: A conceptual framework - Librametry, Bibliometrics, Informetrics, Scientometrics, Webometrics, Altmetrics; Historical Development of Metric Studies; Need and purpose of metric studies; Application of metric studies in different domain of subjects; Study of Bibliographic databases - SCOPUS, Web of Science, Google Scholar, Indian Citation Index (ICI), etc.

Unit - II

Application of Bibliometric Laws – Lotka's law of scientific productivity, Bradford's law of scattering, and Zip's law of word occurrence. Other notable regularities: 80/20 rule, Success-breeds-success Phenomena model, Law of Price, Mapping of Subject

Unit - III

Citation Studies: citation analysis, citation network, citation matrix- h-index, g-index, Journal Citation Report (JCR) Analysis, bibliographic coupling, co-citation analysis; Growth and obsolescence of literature; Various growth models, the half-life analogy, determination of aging factor and half life, real Vs. apparent, synchronous and diachronous

Unit - IV

Webometrics-Definitions and Meaning, Internet and Informetrics laws, Methods of Studies, Advancement and research in bibliometrics

Unit - V

Big Data Analysis: Open Data, Open Science - Conceptual Framework; Research Gate, ORCID and 'R' Statistics; Web link Analysis, Web Impact Factor analysis

Books

1. Thelwall, M. (2009). Introduction to webometrics: Quantitative web research for the social sciences, Williston :Morgan and Claypool Publishers.
2. Gayanthri Mahapatra. (2009). Bibliometrics Studies in the Internet era. New Delhi : Indiana Publishing House.
3. Deverajan. G. (1998). Bibliometric Studies. New Delhi : Ess Ess Publications.
4. Raju, Nemani Govinda. (2009). Bibliometric Applications: Study Of Literature Use Patterns. New Delhi : Akansha Publishing.
5. Tiwari, Ashwini. (2006). Bibliometrics, Informetrics and Scientometrics. Delhi: RBSA.
6. Gupta, B.M. (1999). Emerging trends in Scientometrics. Mumbai: Allied.
7. Sinha, Suresh C. (2001). Citation analysis of research field and information technology development. New Delhi: Ess Ess Publication.
8. Nielsen, Jakob. (2000). Designing Web Usability. USA : New Riders.
9. Vinkler, Peter. (2010). The Evaluation of Research by Scientometrics Indicators. UK: Chandos.
10. Garfield, E. (1979). Citation indexing: It's theory and application in science, technology and humanity. New York: John Wiley and Sons.
11. Jeffrey M. Stanton . (2013) Introduction to Data Science. Available for free in the iTunes bookstore or as a PDF download at <http://surface.syr.edu/istpub/165/>. 2013.
12. Simon Walkowiak. (2016). Big data Analytics with R. Bringham : Packt Publishing.

Websites

13. https://en.wikipedia.org/wiki/Programming_with_Big_Data_in_R
14. <http://guides.temple.edu/orcid>

Journals

15. Collnet Journal of Scientometrics and Information Management, Taru publications
16. Scientometrics, Springer
17. Journal of Information Management and Scientometrics, AMU, Aligarh
18. Journal of Informetrics - Elsevier

17LISR0104 Research Methodology in Library and Information Science

Credit: 4

Learning Objective:

- To know basic concepts and currents in Library and Information Science.
- Technological Advancement in Library and Information Science

Learning outcomes

- Know about the latest trends in Library and Information Science
- Application of Technologies in Libraries

Unit – I

Research : Meaning, Objectives, Hypotheses, Characteristics. Types of Research; Pure, Applied, Action Research, Inter-Disciplinary Research – Logic and Scientific Investigation. Research Problem: Identification, Selection and Formulation of a Research Problem. Areas of research in LIS.

Unit – II

Research Design – Meaning, importance and Concept. Characteristics of a Good Research Design. Types of Research Design: Exploratory, Case Study, Delphi Method-Descriptive, Diagnostic and Experimental. Components of Research Design, Scaling Techniques.

Unit - III

Data Collection: Primary and Secondary Data Sources. Tools of Data collection: Schedule, Interview, and Questionnaire -Observation – Survey-Sampling Techniques. Precautions in the Use of Secondary Data

Unit – IV

Data Analysis: Analysis and Interpretation – Statistical Tools and Techniques –Measure of Central Tendency – Content Analysis, t-Test, ANOVA, Chi-Square Test -Regression and Correlation.

Unit –V

Report Writing - Utilization and Presentation of Diagrams, graphs and tables. Role of Bibliography in Research, Style of Rendering.

Books

1. Krishan Kumar. (1992). Research Methods in Library and Information Science, New Delhi : Vikas.
2. Kothari. C.R. (2004). Research Methodology (Methods & Techniques). New Delhi : New Age International.
3. Devarajan, G. (2002). Research in Library & Information Science. New Delhi : Ess Ess.
4. Panda, B. D. (1997). Research Methodology for Library Science. New Delhi : Anmol.
5. Ravichandra Rao, I.K. (1988). Quantitative Methods for Library and Information's Science, New Delhi: Wiley Eastern.
6. Santhosh Gupta. (2000). Research Methodology and Statistical Techniques. New Delhi : Deep and Deep.
7. Chowdhury, G.G. (2003). Introduction to Digital Libraries. London: Facet.
8. Deegan, Merlyn and Tanner, Simon. (2001). Digital Futures: Strategies for the Information Age. London : Facet.
9. Goode, W.J. and Hatt, P.K.(1952). Methods in social research. New Delhi: Surjeet.
10. Busha, C.H. and Harter, S.P. (1980). Research methods in librarianship: techniques and interpretation. New York : Academic Press.
11. Krishnaswamy, O.R. and Satyaprasad, B.G. (2010). Business Research Methods. Mumbai: Himalaya Publishing House

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UNIT – 1: Descriptive Statistics: Central Measures; Variability Measures; Skewness Measures Inductive, generalization and data modeling and Working with databases; Correlation and Regression – Simple problems.

UNIT – 2: Probability: Basic Concepts, Definitions of Probability - Different approaches to probability; Binominal, Poisson and Normal Distributions – Simple Problems.

UNIT – 3: Inferential Statistics: Basic Concepts; Type I and Type II Errors; Steps in Hypothesis Testing; Tests of Attributes, Small and Large Sample Tests – Test based on Normal, t, F – Mean and Variance; Chi-square Test – Goodness of fit and independents; Analysis of Variance – One way and Two way Analysis with illustrations; Non – parametric Tests – Test of Randomness – Mann Whitney U Test; Kruskal Walli’s Test.

UNIT – 4: Multivariable Analysis: Multiple Correlation and Regression with three variables, Partial Correlation and Regression Logistic Regression Analysis; Factor Analysis, Discriminant Analysis; Cluster Analysis; Demonstration with Software Packages.

UNIT – 5: Practical: Data Processing, Analysis and Interoperation Use of Statistical Softwares; R – State, SPSS, STATA

BOOKS

- Alvin.C. Rencher, William F. Christensen, **Methods of Multivariate Analysis, 3rd edition**, Wiley, (2012).
- Blalock, H.J, **Social Statistics**, New York; MC Graw Hill, (1960).
- David R. Abderson, Dennis. J. Sweeney, Thomas.A Williams, Jeffrey.S Camm, James.J. Cochran **Statistics for Business and Economics**, 13^e Revised CENGAGE Learning USA, (2017).
- Gupta, S.P, **Statistical Methods**, Sultan and Chand Publications New Delhi

- Johnson R.A, Wichern D.W, **Applied Multivariate** Statistical Analysis, Prentice – Hall Saddle River, NJ, USA (1988).
- Krishnaswami,O.R and M. Renganatham, **Methodology of Research in Social Sciences**, Mumbai; Himalaya Publishing House (2010).
- Kenblack, **Business Statistics ; for Contemporary Decision Making** : 8th edition ; Wiley Global Education, (2013).
- Sinha, B.L, **Statistics in Psychology and Education**, New Delhi; Anmol Publications Private Limited (2006).

REFERENCES

- Ajai S. Gaur, Sanjaya S. Gaur, Statistical Methods for Practice and Research – A Guide to Data Analysis Using SPSS, Response Books Business books from SAGE, B-1.I-1, Mohan Corporate Industrial Area, Madura Road, New Delhi – 110 044 India, (2010).
- Aneshensel, Carol S. **Theory-Based Data Analysis for the Social Sciences**, Thousand Oaks, Calif., Pine Forge Press. (254 pp) (2002).
- Hair Jr, Joseph F., William C. Black, et al. Multivariate Data Analysis. Upper Saddle River, New Jersey 07458, Pearson, Prentice Hall., chapters 1–5, 8, 10–12 (2006).
- Vijayalakshmi, G and C. Sivapragasam, **Research Methods: Tips and Techniques**, MJP Publishers, Chennai (2009).

WEBLIOGRAPHY:

- **Resource for methods in evaluation in social research**

<http://gsociology.icaap.org/methods/>

Extensive site providing information on how to evaluate research. This site was created by a US academic in Sociology, Dr Gene Shackman. Information about his background and credentials are available via the site.

- **Research methods and statistics arena**

<http://www.researchmethodsarena.com/resources/resources.asp>

An up-to-date guide to books and journals in research methods. Includes free datasets for SPSS. This site was compiled by Psychology Press, an Informa brand. It therefore focuses on Informa products.

- **Institute tutorial in research methods**

<http://www.vts.intute.ac.uk/he/tutorial/social-research-methods>

A tutorial on using the internet as a resource on social research methods. Funded by JISC and created by academics, tutors and librarians.

- **Practical examples for the analysis of surveys**

<http://www2.napier.ac.uk/depts/fhls/peas/index.htm>

In depth guide to analyzing surveys with practical examples and resources on theory. This site is produced with a collaboration between Napier University in Edinburgh and the National Centre for Social Research.

- **Economic and Social Data Service guides**

<http://www.esds.ac.uk/support/onlineguides.asp>

A series of guides on methods, using datasets, and resources for particular research themes. Researchers based in UK universities can use specially created teaching versions of datasets as examples when using some of these guides.

- **Associations, programmes and research units Economic and Social Data Service: Linking International Macro and Micro Data training:**

<http://www.esds.ac.uk/international/e-learning/limited/resource>

A learning resource including downloadable PDF files and videos about combining micro and macro data and making cross national data comparisons. The ESDS is a national data archive and disseminating programme for the UK, funded jointly by the Economic and Social Research Council (ESRC) and the Joint Information Systems Committee (JISC).

- **Data analysis: online manuals and guides to software packages**

SPSS product site <http://www.spss.com/statistics> the product site for SPSS a statistical data management and analysis package, Includes free demo.

- **Introduction to State using the UK Labour Force Survey**

<http://www.esds.ac.uk/government/docs/documents/StartingStata9.pdf>

A training guide produced by ESDS Government. State is a statistical analysis tool. The dataset used as an example in this guide can be downloaded by researchers and students in UK Higher Education Secondary analysis of statistics and quantitative data analysis www.data-archive.ac.uk.