Research Methodology for Doctoral Entrance Test (DET)

Unit-I: Basics of Research: Introduction of Research methodology, nature, concept, objective and scope of research; Research motivation; Types and method of research, steps in research, Review of literature, research gap, Quantitative and qualitative research, Criteria of good research, Paper writing, layout of research paper, Review of literature .

Unit-II: Research Problem and Research design: Research problem, identification, selection and its formulation. **Research design**: Meaning and need, Different research design. Experimental design, Sample design.

Unit III: Data collection and Data Analysis: Data collection: Introduction, Experiments and survey, Methods of data collection, collection of primary and secondary data. **Data Analysis**: sampling and size of sample, hypothesis, testing of hypothesis and significance: t-test, F-test, chi-square test. Basic ANCVA, correlation and regression.

Unit –IV: Research ethics and Indexing Database: Definition, moral philosophy, nature of moral judgments and reactions, **Scientific misconduct:** Ethics with respect to science and research, Intellectual honesty and research integrity, Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP) **Indexing Databases**: Indexing databases, Citation databases: Web of Science, Scopus, etc., Use of plagiarism software like Turnitin, Urkund/Ouriginal and other open source software **Research Metrics:** Impact Factor of journal as per Journal Citation Report (JCR), pear review process, h-index, g-index, i10-index.

Unit–V: Computer Fundamental and software tool: Introduction to hardware and software, Application software: MS-word, MS-excel, MS-powerpoint, Basics of internet, Basics of internet, **Software tool:** SPSS, La-Tex, Google scholar, online paper submission system like Easy chair, Reference management tool: Mendeley, Zotero etc., plagiarism software like Turnitin, Urkund and other open source software.

Suggested Readings:

1. Computer Fundamentals architecture and organization by B.Ram and Sanjay Kumar, New Age International Publisher.
2. Microsoft Office System Step by step by Cox, Joyce etc. all, PHI Learning India.
3. Plagiarism: Why it happens, How to prevent it? -B. Gilmore.
4. Data communication and networking, B.A, Forouzan, McGraw Hill publication, latest edition.
5. Research methodology: Methods and techniques: C.K. Kothari (2008), New Age International, New Delhi, Third edition.
6. Research Methodology: R. Panneerselvam, PHI learning publication, India, second edition.
7. Research methodology in Behavior Sciences (English and Hindi), S.K. Mangal, S. Mangal, PHI learning publication, India.

E-Resources:

1. SPSS modeler https://www.ibm.com/products/spss-modeler.
2. Research Ethics in SWAYAMhttps://onlinecourses.swayam2.ac.in/cec22_ge28/preview.
3. Research ethics using research methodology in SWAYAM https://onlinecourses.swayam2.ac.in/aic21_ge02/preview?
4. Research ethics and plagiarism in SWAYAM https://swayam.gov.in/explorer?searchText=Research+Ethics+and+Plagiarism
5. Research ethics https://www.youtube.com/watch?v=WvdVzvassUQ&list=PL9NfqAVai9Yt7199tWmotUhyFQA-BLLPH.
6. Research ethics
7. https://www.youtube.com/watch?v=Fq3T3hCqMqg&list=PL9NfqAVai9Yt7199tWmotUhyFQA-BLLPH&index=3.
8. Shodhgangahttps://shodhganga.inflibnet.ac.in/
9. E-SodhSindhuhttps://ess.inflibnet.ac.in/about.php.

   Inflibnet https://www.inflibnet.ac.in/about/