Curriculum Plan: B.Sc.(Hons.) Mathematics (Semester VI) (Research Methodology) DSE-4

Dr. Mohd Nadeem Assistant Professor Department of Mathematics Kalindi College University of Delhi Delhi- 110008		**Marks Distribution**	**Theory**-90
			Internal Assessment+Practical-30+40
		Classes Assigned	**Theory: 3 per week**

Reference		**Essential Readings**
	[1]	Bindner, Donald, & Erickson Martin (2011). A Student's Guide to the Study, Practice, and Tools of Modern Mathematics. CRC Press, Taylor & Francis Group.
	[2]	Committee on Publication Ethics- COPE (https://publicationethics.org/)
	[3]	Declaration on Research Assessment.https://en.wikipedia.org/wiki/San_Francisco_Declaration_on_Research_Assessment
	[4]	Evaluating Journals using journal metrics; (https://academicguides.waldenu.edu/library/journalmetrics#s-lg-box-13497874)
	[5]	Gallian, Joseph A. (2006). Advice on Giving a Good PowerPoint Presentation (https://www.d.umn.edu/~jgallian/goodPPtalk.pdf). MATH HORIZONS.
	[6]	Lamport, Leslie (2008). LaTeX, a Document Preparation System, Pearson.
	[7]	Locharoenrat, Kitsakorn (2017). Research Methodologies for Beginners, Pan Stanford Publishing Pte. Ltd., Singapore.
	[8]	Nicholas J. Higham. Handbook for writing for the Mathematical Sciences, SIAM, 1998.
	[9]	Steenrod, Norman E., Halmos, Paul R., Schiffer, M. M., & Dieudonné, Jean A. (1973). How to Write Mathematics, American Mathematical Society.

	[10]	Tantau, Till,Wright, Joseph, & Miletić, Vedran (2023). The BEAMER class, Use Guide for Version 3.69. TeX User Group. (https://tug.ctan.org/macros/latex/contrib/beamer/doc/beameruserguide.pdf)
	[11]	University Grants Commission (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions) Regulations 2018 (The Gazette of India: Extraordinary, Part-iii-Sec.4)
Section	**Week**	**Topics**
1	**1st week**	How to learn mathematics, How to write mathematics: Goals of mathematical writing, general principles of mathematical writing,
	2nd week	avoiding errors, writing mathematical solutions and proofs, the revision process,
	3rd week	What is mathematical research, finding a research topic,,,
	4th week	Literature survey, Research Criteria,,.
	5th week	Format of a research article (including examples of mathematical articles) and a research project (report), publishing research.
	6th week	How to present mathematics: Preparing a mathematical talk,
	7th week	Oral presentation
	8th week	Use of technology which includes LaTeX,
	9th week	PSTricks and Beamer;
	10th week	Poster presentation.
	11th week	Web resources- MAA, AMS, SIAM, arXiv, ResearchGate;
	12th week	Journal metrics: Impact factor of journal as per JCR, MCQ, SNIP, SJR, Google Scholar metric;
	13th week	Challenges of journal metrics; Reviews/Databases: MathSciNet, zbMath, Web of Science, Scopus;

	14th week	Ethics with respect to science and research,
	15th week	Plagiarism check using software like URKUND/Ouriginal by Turnitin.
Dispersal of classes, preparation leave and practical examination		