

**Curriculum Plan: B.Sc. (Hons) Mathematics (Semester I)- Theory of Equation and Symmetries
2024-25 Odd Sem**

<p align="center">Dr. Rajni Kanwar Assistant Professor Department of Mathematics Kalindi College University of Delhi Delhi- 110008 Mobile: 7607401426 E- mail: rajnikanwar@kalindi.du.ac.in</p>		Marks Distribution	Theory - 90
			Internal Assessment- 30 Tutorial – 40
		Classes Assigned	Lectures: 1 per week
	References	<p>1. Burnside, W.S., & Panton, A.W. (1979). The Theory of Equations (11th ed.). Vol. 1. Dover Publications, Inc. (4th Indian reprint. S. Chand & Co. New Delhi).</p> <p>2. Dickson, Leonard Eugene (2009). First Course in the Theory of Equations. John Wiley & Sons, Inc. The Project Gutenberg eBook: http://www.gutenberg.org/ebooks/29785</p>	
	Week	Topics	
	1st week	General properties polynomials and equations	
	2nd week	Practice of questions based on Polynomials and equations	
	3rd week	Fundamental Theorem on Algebra and its consequences	
	4th week	Theorem on imaginary, integral and rational roots	
	5th week	Practice of questions based on imaginary, integral and rational roots	
	6th week	Descartes' rule of signs for positive and negative roots and solving questions based on them	
	7th week	Relation between the root and the coefficients of equations	
	8th week	Class Test	
	9th week	Applications to solution of equations when an additional relation among the roots is given	
	10th week	Practice of questions based on Applications to solution of equations when an additional relation among the roots is given	
	11th week	De Moivre's theorem for rational indices	
	12th week	Practice of questions based on De Moivre's theorem for rational indices	
	13th week	the nth roots of unity and symmetries of the solutions	
	14th week	Practice of questions based on the nth roots of unity and symmetries of the solutions	
	15th week	Class Test	