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

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		Marks Distribution	**Theory** - 90
			Internal Assessment- 30 **Tutorial – 40**
		Classes Assigned	**Lectures: 2 per week**
	References	**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). **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	
	Week	**Topics**	
	1st week	Transformation of equations (multiplication)	
	2nd week	Transformation of equations (reciprocal)	
	3rd week	Transformation of equations (increase/diminish)	
	4th week	Cardon's method of solving cubic	
	5th week	Descartes' method of solving biquadratic equations.	
	6th week	Revision of Unit second	
	7th week	Elementary symmetric functions	
	8th week	symmetric functions of the roots of an equation	
	9th week	Newton's theorem on sums of the like powers of the roots;	
	10th week	Computation of symmetric functions such as $\sum \alpha^2 \beta, \quad \sum \alpha^2 \beta^2$	
	11th week	Computation of symmetric functions such as $\sum \alpha^2 \beta\gamma, \quad \sum \frac{1}{\alpha^2 \beta\gamma}$	
	12th week	Computation of symmetric functions such as $\sum(\beta + \gamma - \alpha)^2, \quad \sum \frac{\alpha^2+\beta\gamma}{\alpha^2\beta\gamma}$	
	13th week	Transformation of equations by symmetric functions	
	14th week	Transformation of equations by general functions	
	15th week	Revision of last Unit	