Curriculum Plan: B.Sc. (Hons) Mathematics (Semester III)- Discrete Mathematics
2025-26 Odd Sem

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			Marks Distribution	**Theory** - 90
				Internal Assessment- 30 **Practical - 40**
			Classes Assigned	**Lectures: 2 per week**
	References	**1.** Davey, B. A., & Priestley, H. A. (2002). Introduction to Lattices and Order (2nd ed.). Cambridge University press, Cambridge. 2. Goodaire, Edgar G., & Parmenter, Michael M. (2006). Discrete Mathematics with Graph Theory (3rd ed.). Pearson Education Pvt. Ltd. Indian Reprint. 3. Lidl, Rudolf & Pilz, Gunter. (2004). Applied Abstract Algebra (2nd ed.), Undergraduate Texts in Mathematics. Springer (SIE). Indian Reprint		
	Week	Topics		
	1st week	The cardinality of a set		
	2nd week	Definitions, examples and basic properties of partially ordered sets		
	3rd week	Order-isomorphisms of partially ordered sets		
	4th week	Covering relations, Hasse diagrams of partially ordered sets		
	5th week	Dual of an ordered set, Duality principle, Bottom and top elements, Maximal and minimal elements		
	6th week	Zorn's lemma, Building new ordered sets, Maps between ordered sets		
	7th week	Class Test and Lattices as ordered sets		
	8th week	Lattices as algebraic structures,Sublattices		
	9th week	Products, Lattice isomorphism		
	10th week	Definitions, examples of modular and distributive lattices		
	11th week	Properties of modular and distributive lattices		
	12th week	The M3–N5 theorem with applications		
	13th week	Complemented lattice, Relatively complemented lattice,		
	14th week	Sectionally complemented lattice		
	15th week	More problems on Unit 2 Sectionally complemented lattice Class Test		