Curriculum Plan (ODD SEM 2025-26): B.A.(P) V Sem
DSE-1(ii): Elements of Number Theory

Teacher'S Profile

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Marks Distribution	Theory	90 Marks
	Internal Assessment	30 Marks
	Continuous Assessment	40 Marks
		Assignments -12 Marks
		Test - 12 Marks
		Attendance - 6 Marks
Classes Assigned	Lectures	3 Per Week
	Tutorial	

Essential Readings
1. Burton, David M. (2011). Elementary Number Theory (7th ed.). McGraw-Hill Education Pvt. Ltd. Indian Reprint 2017.

	Week	Topics	
	1st Week (1-9 AUG)	Revisiting: The division algorithm, divisibility and the greatest common divisor	
	2nd Week (11-16 AUG)	Euclid's lemma; The Euclidean algorithm, Linear Diophantine equations.	
	3rd Week (18-23 AUG)	The Fundamental theorem of arithmetic, The sieve of Eratosthenes	
	4th Week (25-30 AUG)	Euclid's theorem and the Goldbach conjecture; The Fibonacci sequence and its nature.	
	5th Week (1-6 SEP)	Congruence relation and its basic properties	
	6th Week (8-13 SEP)	Linear congruences and the Chinese remainder theorem	
	7th Week (15- 20 SEP)	System of linear congruences in two variables	
	8th Week (22-27 SEP)	Fermat's little theorem and its generalization	
	9th Week (29 SEP-4 OCT)	Wilson's theorem and its converse	
	10th Week (6-11 OCT)	Number-theoretic functions for sum and the number of divisors of a positive integer, Multiplicative functions.	
	11th Week (13 -18 OCT)	The greatest integer function; Euler's phi-function and its properties	
	12th Week (27 OCT-1 NOV)	Basics of cryptography, Hill's cipher	
	13th Week (3-8 NOV)	Public-key cryptosystems and RSA encryption and decryption technique	
	14th Week (10-15 NOV)	Introduction to perfect numbers	
	15th Week (17–22 NOV)	Mersenne numbers and Fermat numbers	
	16th Week (24-26 NOV)	Revision	