


Curriculum Plan: B. A. (P) (Semester V)- DSE- ELEMENTS OF NUMBER THEORY. ODD SEM- 2024-25.

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| | | | Internal Assessment- |
| | | Classes Assigned | Lectures: 2 per week. |
| | References. | David M. Burton, Elementary Number Theory (7th Edition), Tata McGraw-Hill Edition, Indian Reprint, 2007. | |
| | Week | Topics | |
| | 1st week | Congruence relation and its basic properties, | |
| | 2nd week | Linear congruences and the Chinese remainder theorem, | |
| | 3rd week | Fermat's little theorem | |
| | 4th week | Wilson's theorem and its converse; | |
| | 5th week | Number-theoretic functions for sum and the number of divisors of a positive integer, | |
| | 6th week | Multiplicative functions, | |
| | 7th week | The greatest integer function | |
| | 8th week | Euler's Phi-function and its properties. | |
| | 9th week | Basics of cryptography, Hill's cipher, | |
| | 10th week | Public-key cryptosystems and RSA encryption | |
| | 11th week | Mersenne numbers and Fermat numbers | |
| | 12th week | Fermat numbers | |
| | 13th week | Fermat's last theorem. | |
| | 14th week | REVISION | |
| | 15th week | REVISION | |