Objectives and Outcomes

- **Prime Factorization:** One of the fundamental concepts in number theory is the prime factorization of integers. Understanding how integers can be expressed as products of prime numbers is crucial in many areas of mathematics and cryptography.

- **Congruences:** Number theory deals extensively with congruences, which are relationships between numbers concerning their remainders when divided by a fixed integer. The study of congruences leads to modular arithmetic, which has applications in cryptography, computer science, and theoretical physics.

- **Diophantine Equations:** Number theory investigates Diophantine equations, which are polynomial equations with integer solutions. The study of these equations often involves techniques from algebra, geometry, and combinatorics and has applications in cryptography and cryptography.

- **Distribution of Primes:** Understanding the distribution of prime numbers is a central theme in number theory. Results such as the prime number theorem and the Riemann hypothesis provide deep insights into the behavior of prime numbers.

- **Arithmetic Functions:** Number theory studies various arithmetic functions such as the divisor function, Euler's totient function, and the Möbius function. These functions have applications in cryptography, combinatorics, and analysis.

Overall, the objectives of number theory range from understanding the fundamental properties of integers to applying these insights in various practical fields such as cryptography, computer science, and coding theory.

SAS Government Degree College Narayanapuram

Department of Physics

(CERTIFICATE COURSE IN Mathematics)

Brief Report on Certificate Course

In the Academic Year 2022-23 certificate course programme on Certificate course in Number Theory **was** conducted in the Department of Mathematics, a good number of students were admitted for this certificate course. Through this course students get knowledge about Number Theory. Assessment was done in the form of written exam.

PRINCIPAL
Principal
SAS GOVT. DEGREE COLLEGE
NARAYANAPURAM
West Godavari District.
Pin: 534 406, Andhra Pradesh

Head Dept Of Mathematics

Incharge
Department of Mathematics
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406