

Walchand College of Engineering, Sangli (Government Aided Autonomous Institute)	
AY 2025-26	
Course Information	
Programme	B.Tech. (Computer Science and Engineering)
Class, Semester	Final Year B. Tech., Sem VII
Course Code	6CS451 C
Course Name	Cryptography and Network Security Lab

Experiment No. 04

Title - Implementation of Chinese Remainder Theorem (CRT)

Objectives:

To understand and implement the Chinese Remainder Theorem (CRT) for solving systems of simultaneous congruences with pairwise coprime moduli.

Problem Statement:

Given a system of simultaneous congruences:

$$\begin{aligned}x &\equiv a_1 \pmod{n_1} \\x &\equiv a_2 \pmod{n_2} \\&\vdots \\x &\equiv a_k \pmod{n_k}\end{aligned}$$

where the moduli n_1, n_2, \dots, n_k are pairwise coprime positive integers, find the smallest non-negative integer x that satisfies all these congruences simultaneously.

Equipment/Tools:

Theory:

Procedure:

Steps:

Observations and Conclusion: