

# Automated Code Generation and Testing: Tools and methodologies

**Ms. Jeenal Jain**

Assistant Professor, Department of Information Technology

Nirmala Memorial Foundation College of Commerce and Science, Mumbai, Maharashtra, India

**Abstract:** *Automated Code Generation and Testing (ACGT) has emerged as a transformative approach in software development, promising increased efficiency and reliability. This research paper explores the tools, methodologies, and implications of ACGT in modern software engineering practices. Through qualitative analysis, the study investigates current practices, challenges, and future directions in ACGT, highlighting its potential to revolutionize software development processes. Findings underscore the benefits of ACGT in accelerating development cycles and improving software quality, while also addressing critical considerations such as code maintainability and testing adequacy.*