



## G. Narayanamma Institute of Technology & Science (Autonomous)(For Women)

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Shaikpet, Hyderabad-500104

### DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

III B.Tech I Sem Mini Project-2, 2024-2025, GNR-22

on

Secure Data Encoding and Retrieval Using Steganography

Under the guidance of

Mrs Ch.Mandakini, Assistant Professor

#### Abstract:

With the increasing transmission of sensitive data over the internet, ensuring secure communication has become crucial. Cryptography and steganography address this by protecting data confidentiality and integrity. Cryptography scrambles data into unreadable forms, while steganography conceals its existence by embedding it in media like images. Traditional cryptographic methods, though secure, can attract attention due to visible encryption artifacts. Steganography offers a more discrete solution, with lightweight techniques improving efficiency and reducing computational overhead.

This project introduces a comprehensive steganography platform capable of embedding and extracting hidden data within text, audio, image, and video files. By securely encoding sensitive information into multimedia formats, the system ensures robust data protection and confidentiality. Users can encode plaintext messages into images, audio, and videos or hide one image within another, providing versatile solutions for secure communication. The platform also supports efficient decoding to retrieve the concealed data. With a user-friendly interface and advanced steganographic techniques, this system addresses the growing demand for secure and covert data transmission across various digital mediums.

#### H/W&S/W Requirements:

**Hardware requirements:** RAM 8GB, Processor Intel Core I3

**Software requirements:** Python, Flask, HTML, CSS

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Internal Guide

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