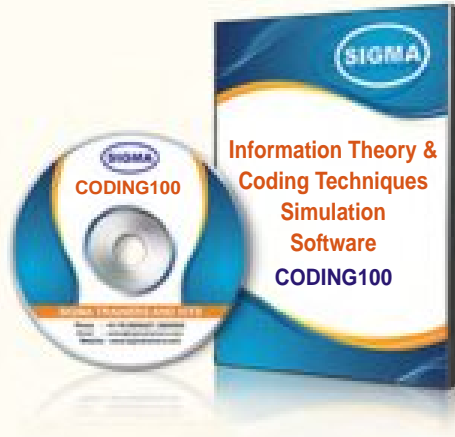




# CODING TECHNIQUES SIMULATION SOFTWARE TRAINER

MODEL - CODING100

This Software trainer provides Simulation of Information Theory & Coding Techniques in MATLAB.



## FEATURES

1. Study of the detailed theory of Information Theory & Coding Techniques as used in Information Technology.
2. Simulation of Information Theory & Coding Techniques in MATLAB.

**Note: - Matlab Software Version 7 or greater is required to this simulations.**

## SPECIFICATIONS

1. Information Theory & Coding Techniques Software
2. Matlab Simulation .m files : more than 50 Files
3. **Books for Information Theory & Coding Techniques : 10 Nos in pdf Format**
4. **Mp4 Video Class for Information Theory & Coding Techniques : 40 Classes in Mp4 on Pen Drive**

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**Dealer:-**

## EXPERIMENTS

- 1 Write a program for determination of various entropies and mutual information of a given channel. Test various types of channel such as
  - a) Noise free channel.
  - b) Error free channel
  - c) Binary symmetric channel
  - d) Noisy channelCompare channel capacity of above channels.
- 2 Write a program for generation and evaluation of variable length source coding using C/MATLAB (Any 2)
  - a) Shannon – Fanocoding and decoding
  - b) Huffman Coding and decoding
  - c) Lempel Ziv Coding and decoding
- 3 Write a Program for coding & decoding of Linear block codes.
- 4 Write a Program for coding & decoding of Cyclic codes.
- 5 Write a program for coding and decoding of convolutional codes
- 6 Write a program for coding and decoding of BCH and RS codes.
- 7 Write a program to study performance of a coded and uncoded communication system (Calculate the error probability)
- 8 Write a simulation program to implement source coding and channel coding for transmitting a text file.
- 9 Implementation of any compression algorithm for either audio, image or video data.
- 10 Implement a model of communication system based on Spread Spectrum Communication System