Experiment No: 03

Name of the Experiment: Design, Implementation, and performance Testing of an FSK Digital Modulation circuit using a Trainer Board.

Objectives:

→ To design and implement a Frequency Shift keying (FSK) modulation circuit using a Trainer board.

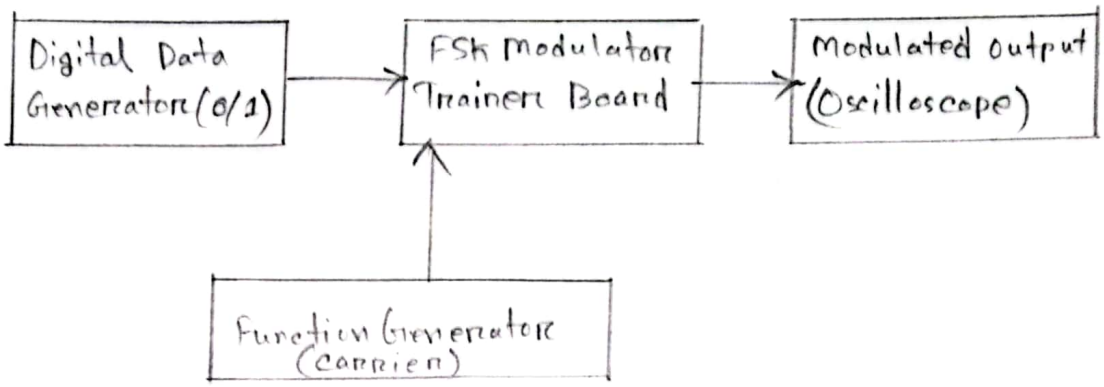
→ To analyze the FSK waveform using a oseilloscope.

Theory: Frequency Shift Keying (FSK) is a digital modulation technique where the frequency of the carrier signal is shifted between two values based on the binary input.

→ When the binary input is '1', the carrier frequency is f_1 (high frequency)

→ When the binary input is '0', the carrier frequency is f_0 (lower frequency)

Block Diagram:



Apparatus:

(1) Digital trainer Board
(2) Oscilloscope
(3) Power Supply
(4) Function Generator
(5) Connecting wire.

circuit Diagram:

Procedure:

(1) Connect the trainer board to the power supply (+5 V DC)

(2) Connect the function generator to the trainer board to provide the carrier signal.

(3) Connect the digital data generator to provide binary input.

(4) Connect the oscilloscope to observe the FSK output

(5) Record and analyze the waveforms.

Precaution:

→ Ensure correct power supply connections to prevent circuit damage

→ Avoid loose connections to maintain signal stability.

Result:

The FSK Modulated waveform was successfully observed on the oscilloscope.