Day 1:

- **CAN Protocol Basics**
    - Introduction to CAN Protocol
    - Applications of CAN in Automotive domain
    - Comparison with other protocols like UART, I2C
        - Serial, Asynchronous protocol
        - Broadcast mechanism
        - Signalling – Dominant, Recessive
        - Two-wire Protocol
        - Message Addressing and Identification
    - CAN Messages
        - Data Frame
        - Remote Frame
        - Error Frame
        - Overload Frame
        - Standard vs. Extended CAN
    - Bus Arbitration and Message Priority
    - CAN Error Handling
        - Types of Errors
        - CAN Bus states – Active, Passive, Bus-Off
    - CAN Bit Timing
    - Other Important parameters of CAN Communication
        - Baud rate
        - Cable length
        - Bus Termination
    - CAN Physical Layers
        - CAN Controller
        - CAN Transceiver
        - CAN network topology
- **Demonstration of CAN communication using CANoe or similar tools (Simulation)**
    - Transmission and Reception of CAN Frames
    - CAN Message format understanding in the tool

Day 2:

- **Understanding CAN Controllers - using STM32F103 microcontroller**
    - Introduction to STM32F103 CAN Controller (bxCAN)
    - bxCAN main features
    - CAN block diagram
    - Test modes available in the CAN controller
    - bxCAN Transmission handling
    - bxCAN Reception handling
    - Identifier filtering
    - Bit timing
    - bxCAN interrupts
    - CAN registers Overview
- **Demonstration of CAN Communication from STM32F103 with CAN tools**
    - Transmission and Reception of CAN Frames
    - CAN Errors

Day 3:

- **Understanding of HAL drivers for STM32F103**
  - Transmission
  - Reception
  - Filter Configuration
  - CAN Node Activation
- **Hands-on Implementation of CAN-Interface module using HAL drivers**
  - Transmission
  - Reception
  - Filter Configuration
- **Hands-on Testing of CAN-Interface module with STM32F103 ANCIT Training kits**

Day 4:

- **Extended Hands-on in developing small Automotive applications based on CAN communication**
- **DBC file basics**
- **Creation of DBC files**
  - Nodes
  - Messages
  - Signals

Day 5:

- **CAN-FD protocol Basics**
  - Introduction to CAN-FD
  - Differences between CAN and CAN-FD
  - CAN-FD Message formats
- **Demonstration of CAN-FD communication using CANoe or similar tools (Simulation)**
  - Transmission
  - Reception
- **EVALUATION**