EAST WEST UNIVERSITY

Department of Computer Science and Engineering

Lab-report:07

Course Name: Electronic Circuits
Course Code: CSE 251
Section No: 01

Name of experiment: Biasing of a common source voltage amplifier

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Objectives:

1. Identify an appropriate DC operation point for a NMOS transistor.

Theory:

The biasing of a common source voltage amplifier is done by fixing the gate voltage with a voltage divider and also by using a source resistor R_s. The source resistor gives negative feedback and stabilizes the bias current as a function of temperature variations and transistors characteristics. This is a popular biasing scheme for discrete transistor circuits.

Circuit Diagram:

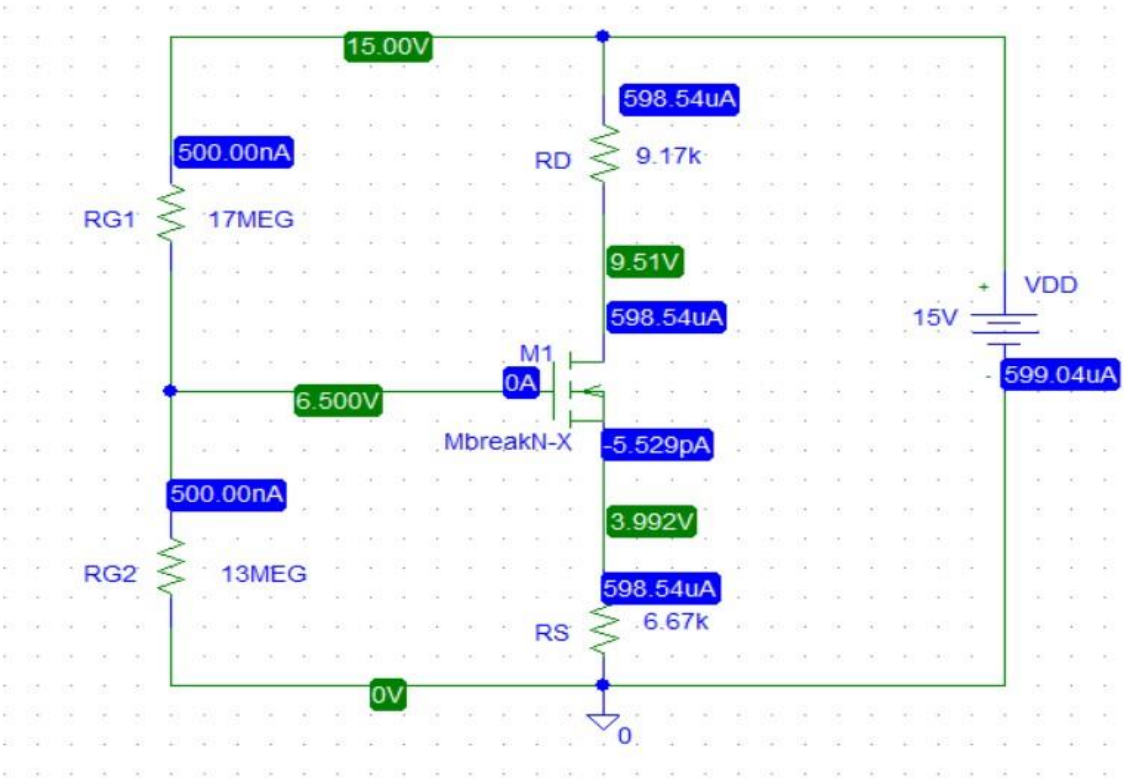


Figure 01: NMOS transistor

Equipments and Components needed:

1.Digital trainer board

2.DC power supply

3.Digital multimeter

4.DC voltmeter

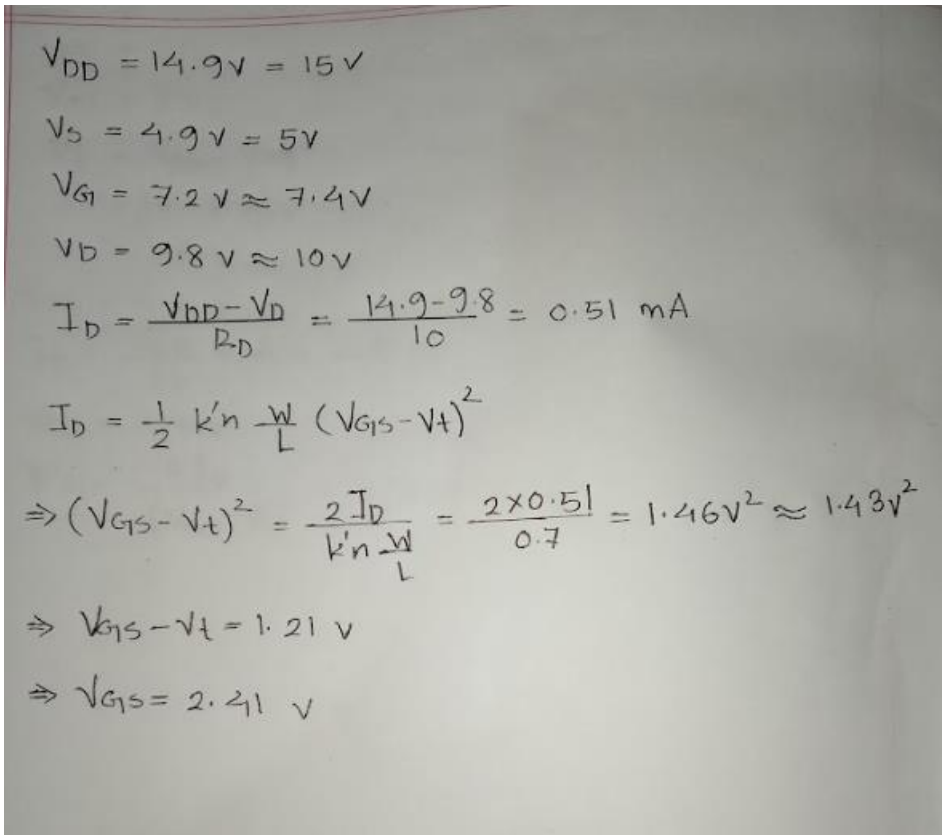
5.CD4007C IC (1 PC)

6.Resistor (1 kΩ 1 pc)

7.Breadboeard

8.Connecting wires

Physical experiment:



Discussion:

This experiment is carried out both in a physical laboratory and in a virtual environment using PSpice. Because the magnitudes were not interrupted in PSpice, the trials were considerably easier to carry out. As a result, the predicted and experimental values were similar. However, there is a discrepancy while the experiment was carried out physically.