Arab Academy for Science & Technology & Maritime Transport

Collage of Engineering and Technology

Cairo Campus

Department of Electronics & Communication Engineering

EC332 Electronic Devices II

Lab. Report

Exp. No.: 4

Title : MOSFET Common Source Amplifier

Name : ……..

ID No. : ……

Class : ……...

Grade:

- **Objective:**

This lab will explore the design and operation of basic single-transistor MOS amplifiers. We will explore the common-source amplifier.

- **Theory:**

- **Theory of Operation:**

- **Design Equations**

- **Circuit Diagram :**

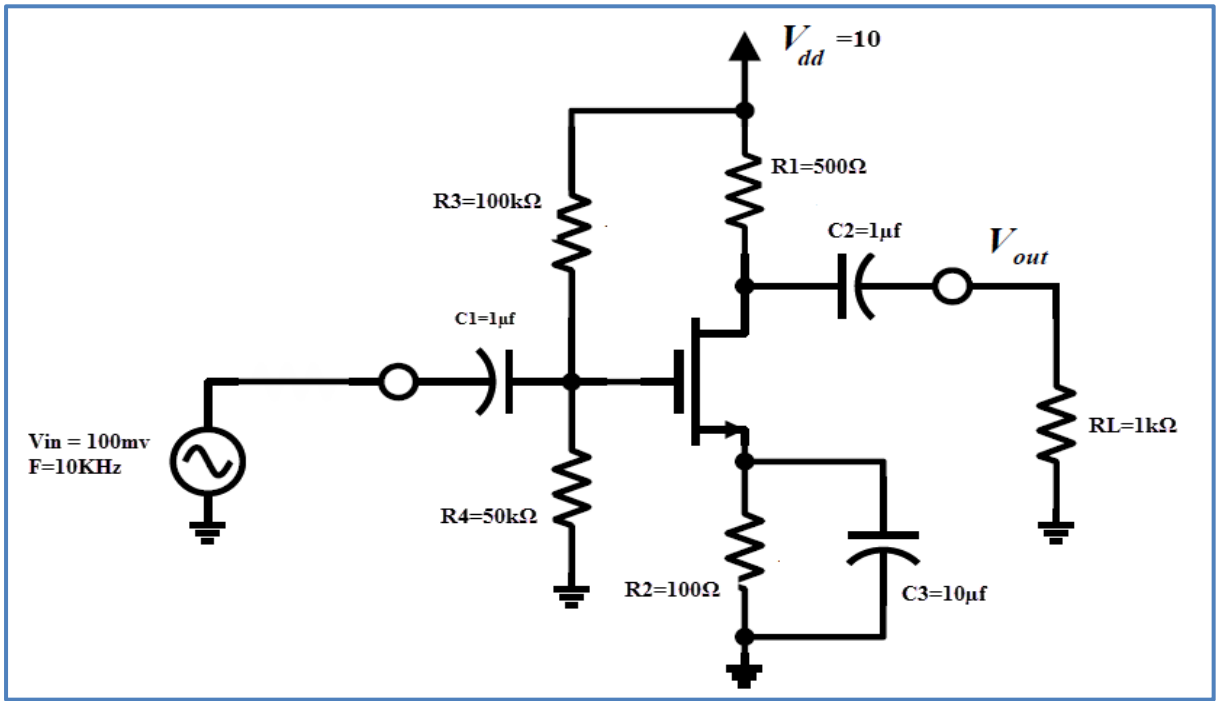

Figure 1

- **Equipment:**

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- **Procedure:**

1- Build the circuit shown in circuit figure 1 on your breadboard.

2- The voltage source will be your function generator, configure the function generator to output a sinusoidal signal with a frequency of 10k Hz and peak amplitude of 100mV with a 0 V DC offset.

3- Check the Transistor's mode of operation and verify that it is in Saturation region.

4- Use the oscilloscope to view the output on the oscilloscope channel 2 and the input voltage on channel 1.

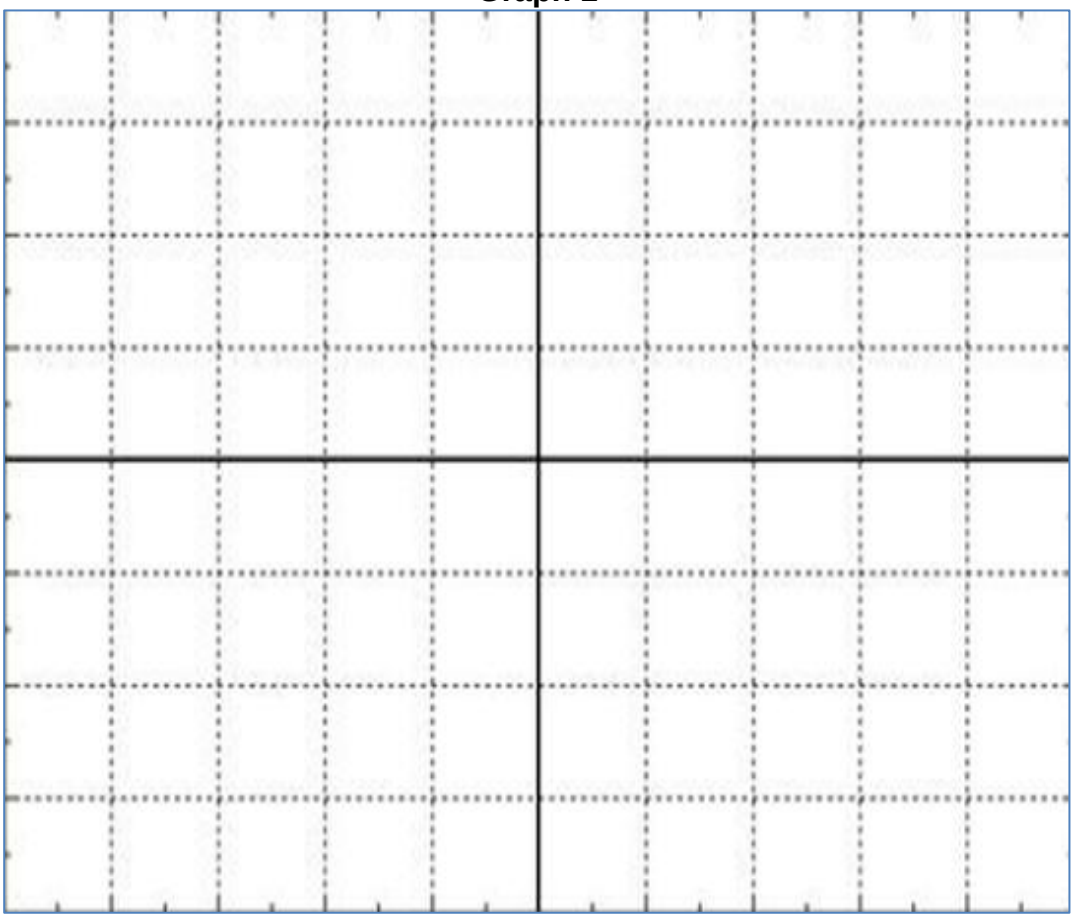
5- Set the horizontal scale to show three periods.

6- Plot the input voltage and output voltage on Graph 1.

7- Find the Gain A=$\frac{Vo/p}{Vi/p}$

- **Measurements and Results:**

Graph 1



- **Attach your ORCAD simulation for the experiment**

- **Conclusion and comments:**

(Justify and compare between theoretical, empirical and CAD simulation results)

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