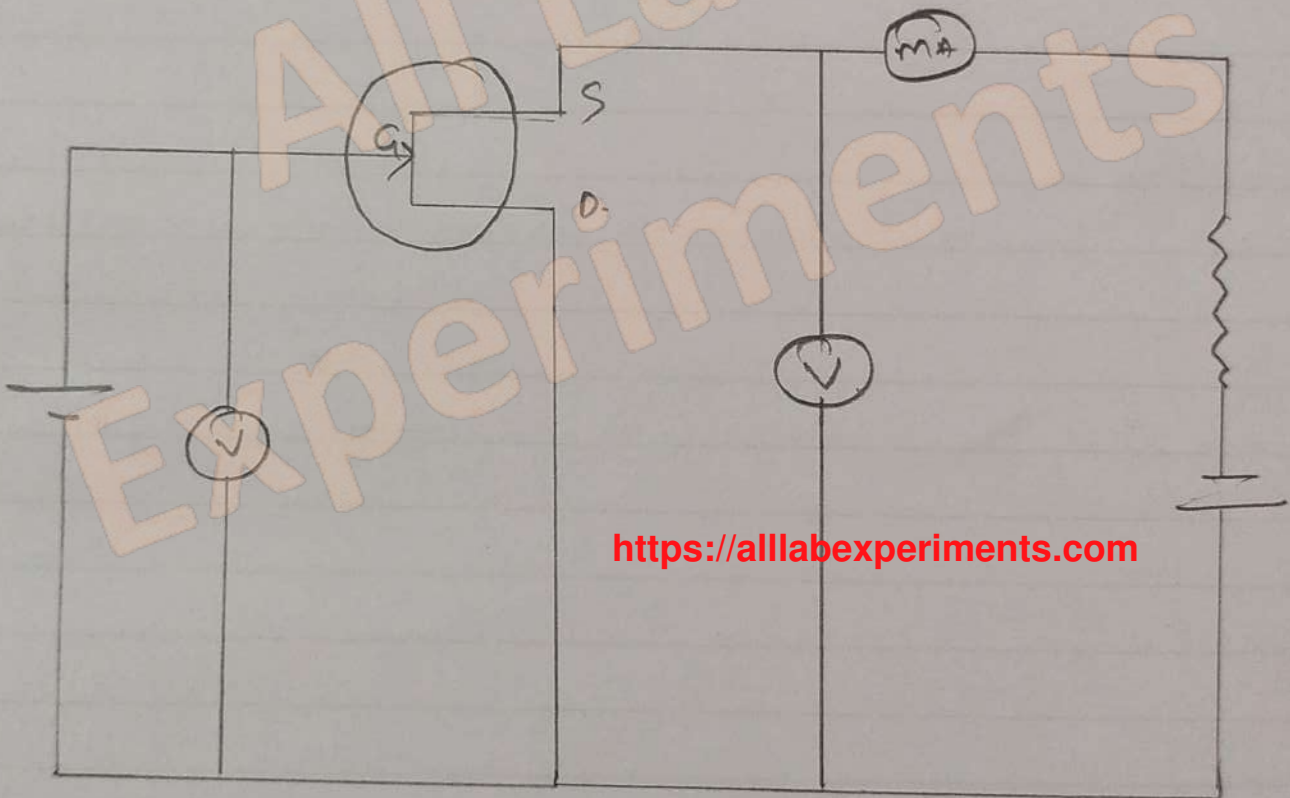


EXPERIMENT-9

Aim:- To study the I-V characteristic of Common Drain configuration of FET.

Apparatus:- variable d.c. regulated power supply, milliammeter (0-20 mA), voltmeter (0-20 V) and (0-20 V) Ω resistor and FET.



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EXPERIMENT-9

Aim - To study the I-V characteristic of Common Drain configuration of FET.

Apparatus - Variable d.c. regulated power supply, milliammeter (0-20 mA), Voltmeter (0-20V) and (0-2V), resistors and FET.

Theory - The Common drain configuration of FET has been drawn on the opposite page. In this configuration, the bias voltages are applied between Gate and Drain and Drain and source. The input is given between the Gate and the Drain and the output is taken across Drain and source terminals.

Characteristics of JFET

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(1) Output or Drain characteristic

The curve drawn between the source current I_s and source to drain voltage V_{DS} at constant V_{GS} .

The curve characteris is similar to that obtained in the Common

$V_{GD} = 0.75V$

$V_{GD} = 0.50V$

S.No

$V_{SD} (V)$

$I_S (mA)$

$V_{SD} (V)$

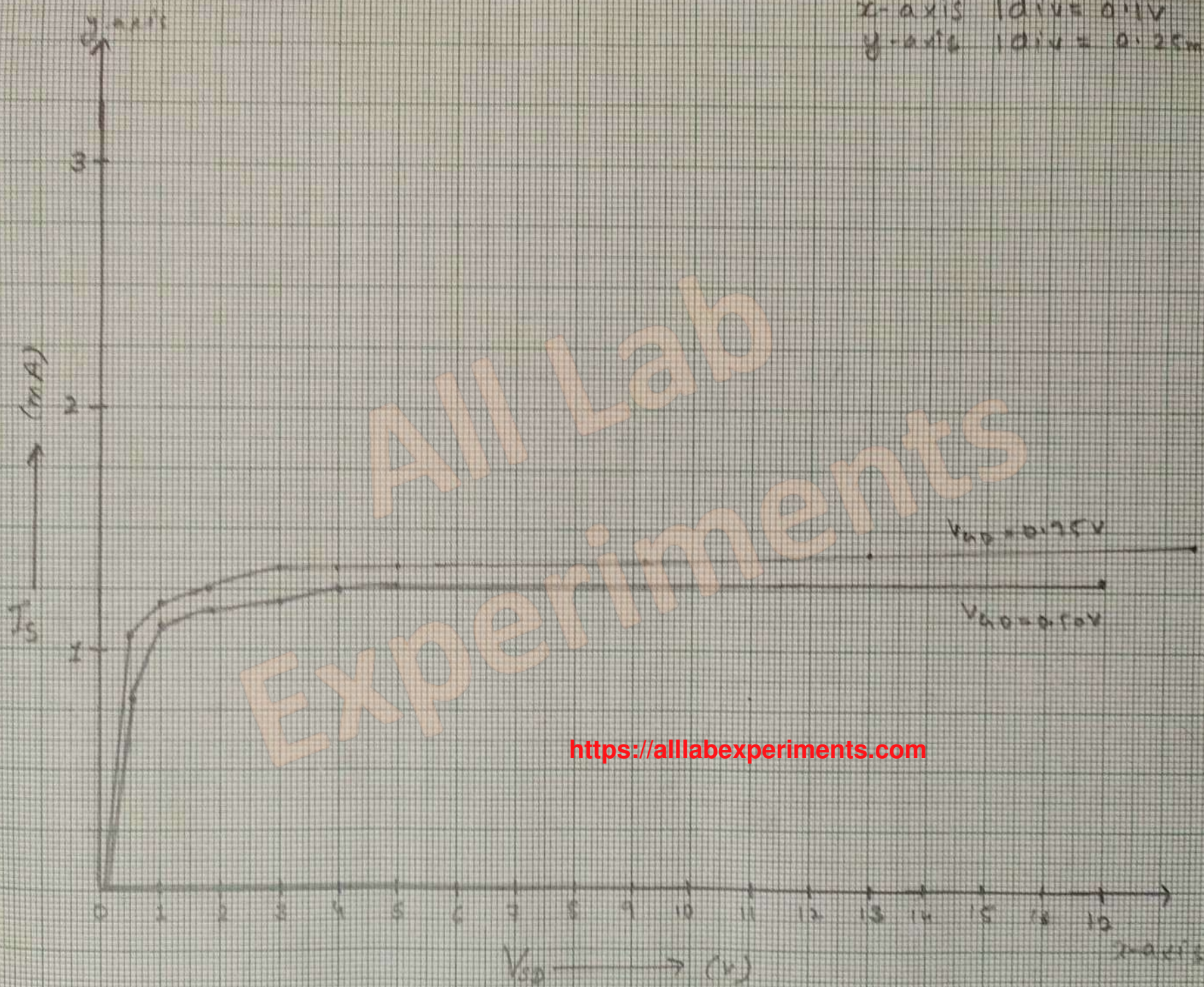
$I_S (mA)$

1	0.5	1.27	0.5	1.30
2	1.0	1.44	1.0	1.44
3	1.5	1.48	2.0	1.48
4	2.0	1.50	3.0	1.52
5	3.0	1.53	4.0	1.54
6	4.0	1.53	5.0	1.55
7	6.0	1.54	6.0	1.55
8	7.0	1.56	7.0	1.56
9	8.0	1.57	8.0	1.57
10	9.0	1.57	9.0	1.57
11	10.0	1.57	10.0	1.58
12	12.0	1.57	11.0	1.58
13	13.0	1.58	14.0	1.58
14	17.0	1.58	15.0	1.58
15	20.0	1.60	17.0	1.60
16	25.0	1.60	22.0	1.60

Scale

x-axis 1div = 0.1V

y-axis 1div = 0.25mA



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Source configuration. The current first inc. linearly and after pinch-off voltage saturates and become constant.

TRANSFER CHARACTERISTIC

The transfer characteristic can be obtained experimentally by keeping V_{DS} constant and determining source current for various values of gate-drain voltage V_{GD} . The circuit diagram is shown in fig ().

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RESULT:- The I-V characteristic of the Common Drain configuration of FET has been plotted and studied.