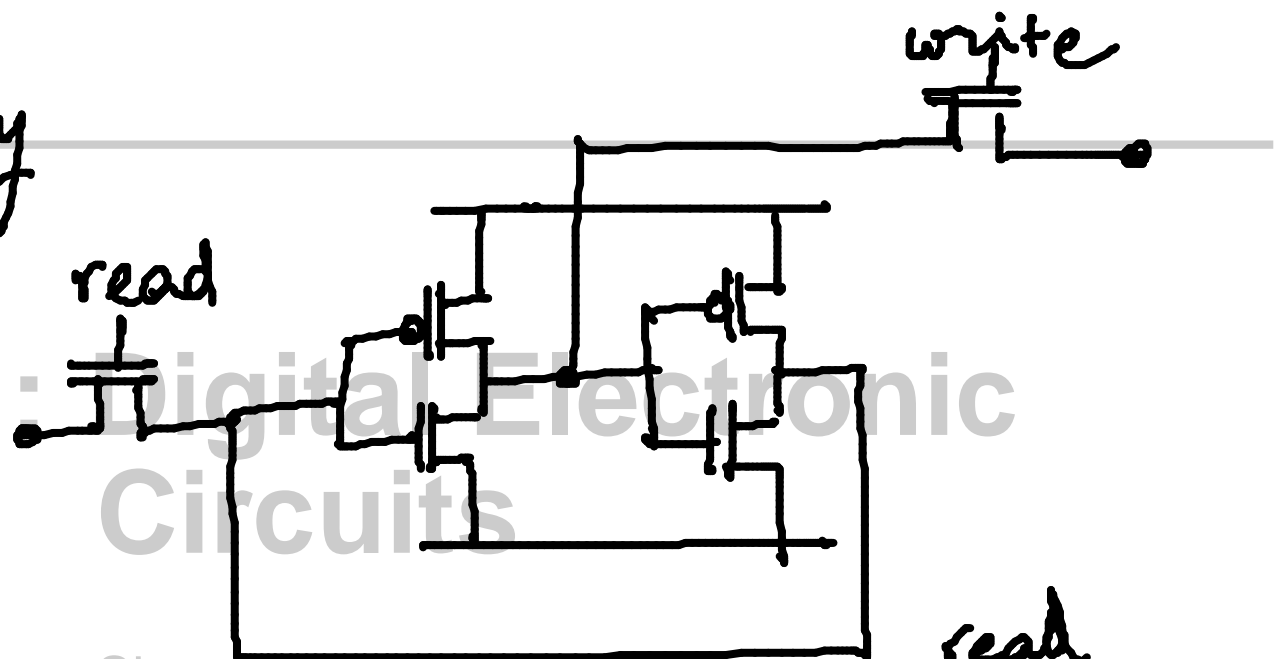


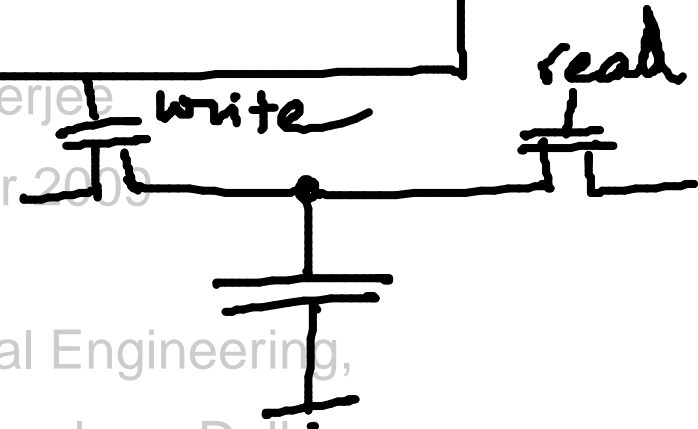
Flash memory

SRAM → 6T cell



DRAM →

1 cap

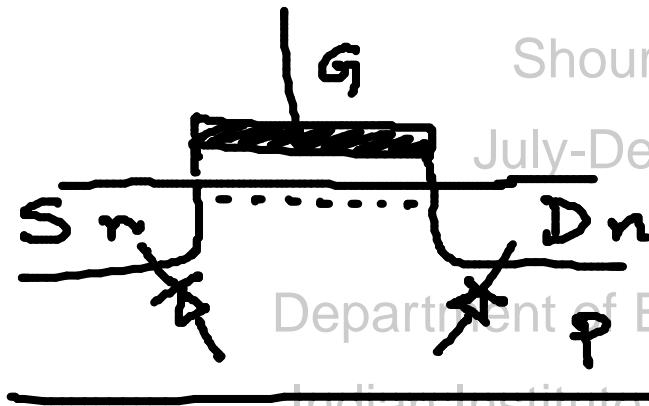


memory → charge on a capacitor



EEL201: Digital Electronic Circuits

a floating capacitor



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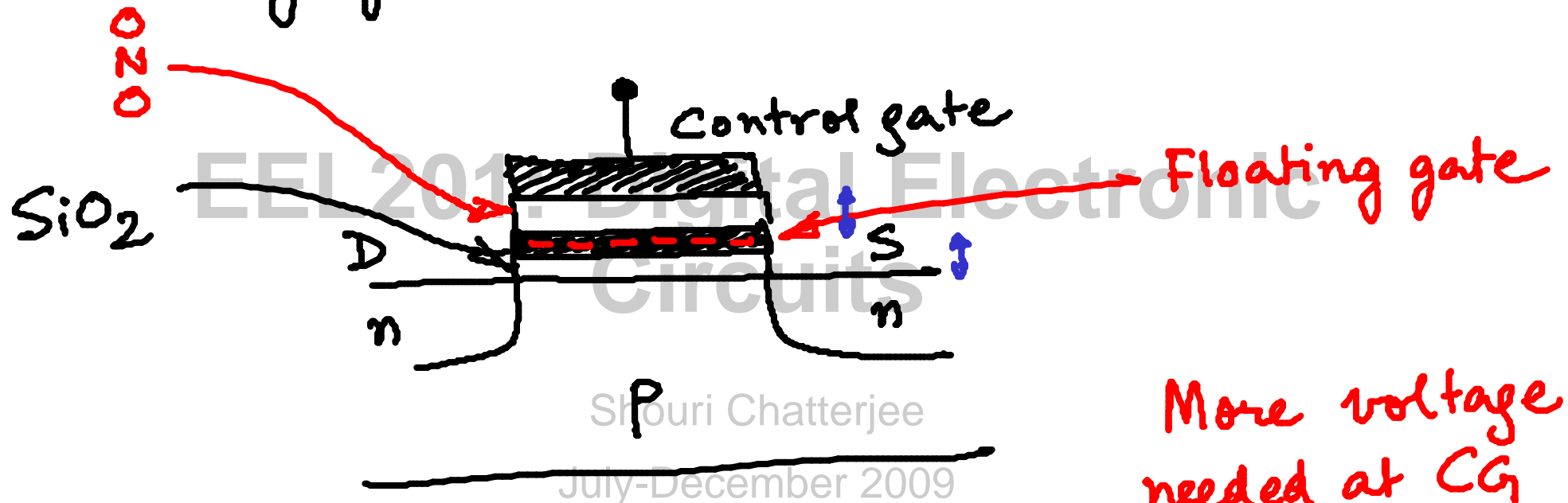
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Floating gate device



More voltage
needed at CG
to switch ON.

For 5V at CG, if no charge on FG, device ON
if electrons on FG, device OFF



NAND flash \longrightarrow data only.

NOR flash \longrightarrow random access — code and data

Writing mechanism:

1) Programming \longrightarrow make it 0

2) Erasing \longrightarrow make the bit = 1.

↓ 1
1001 10

1111 11

↑
0



carrier hot electron injection

quantum tunneling

← entire block

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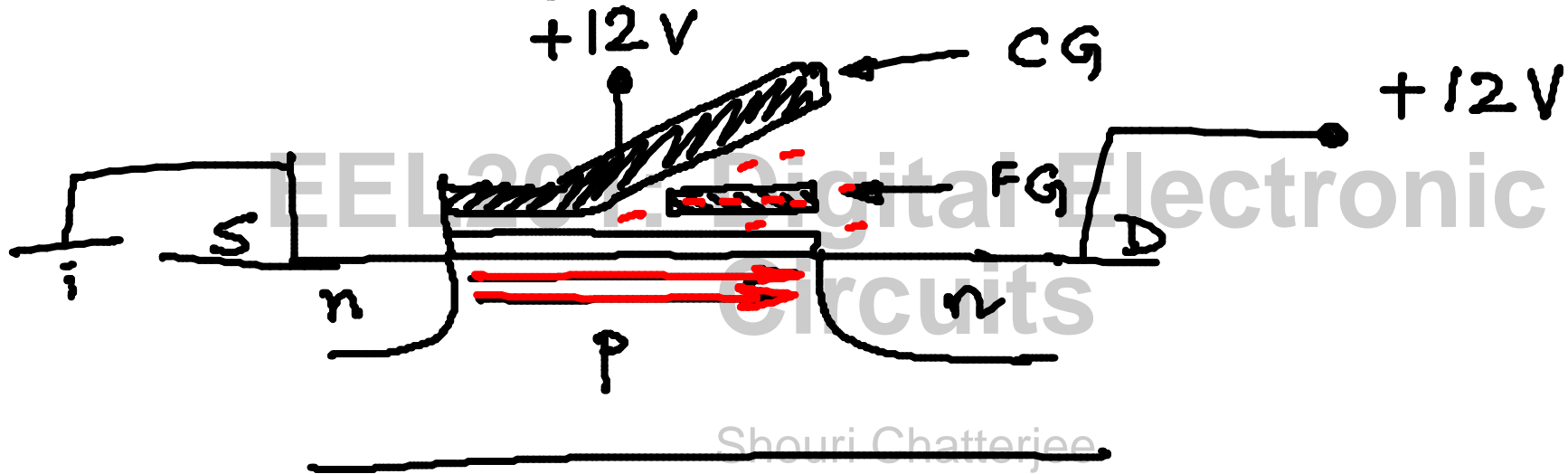
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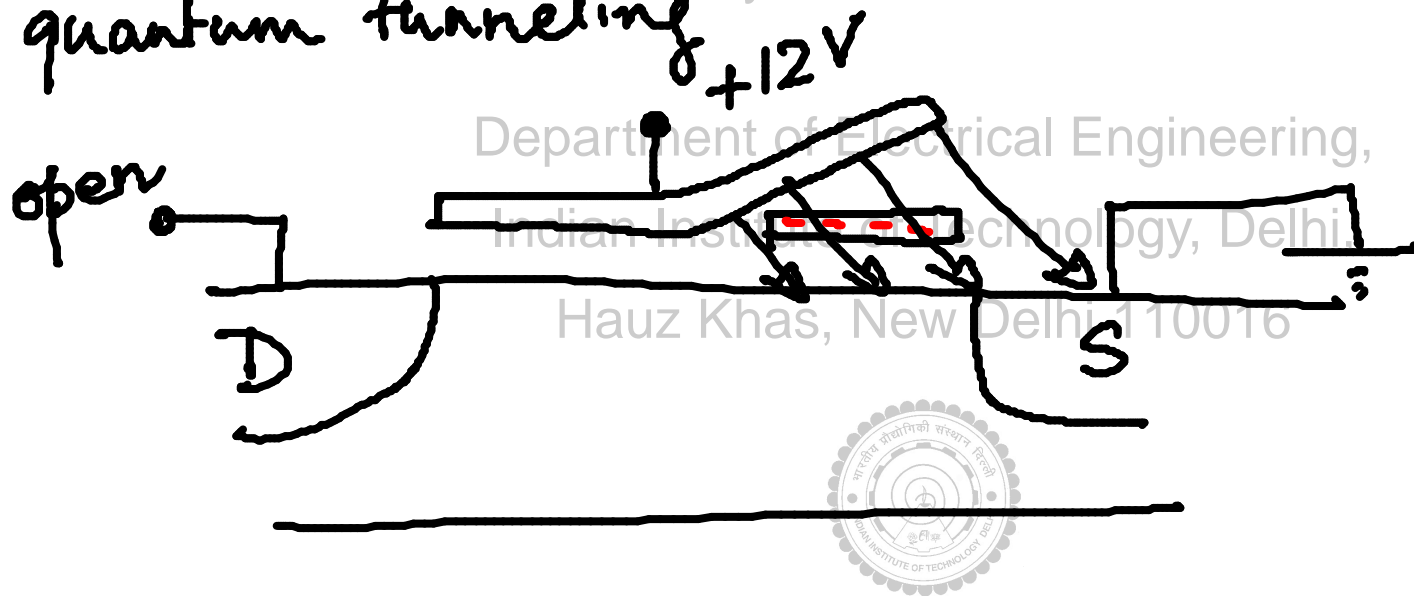
hot electron injection



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quantum tunneling



4-5 M V/cm

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