

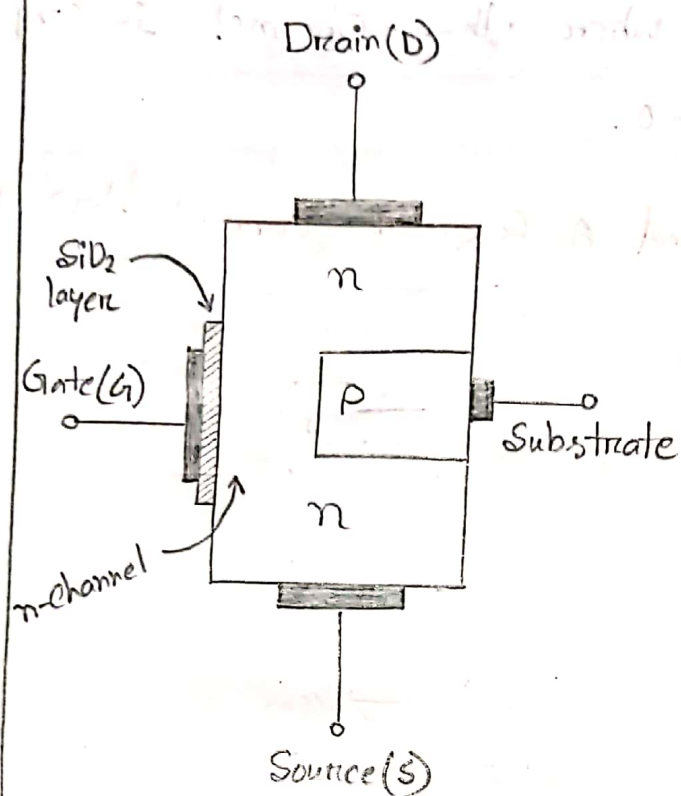
# Metal Oxide Semiconductor Field Effect Transistor (MOSFET)

• MOSFET works both in depletion & Enhancement mode of operation.

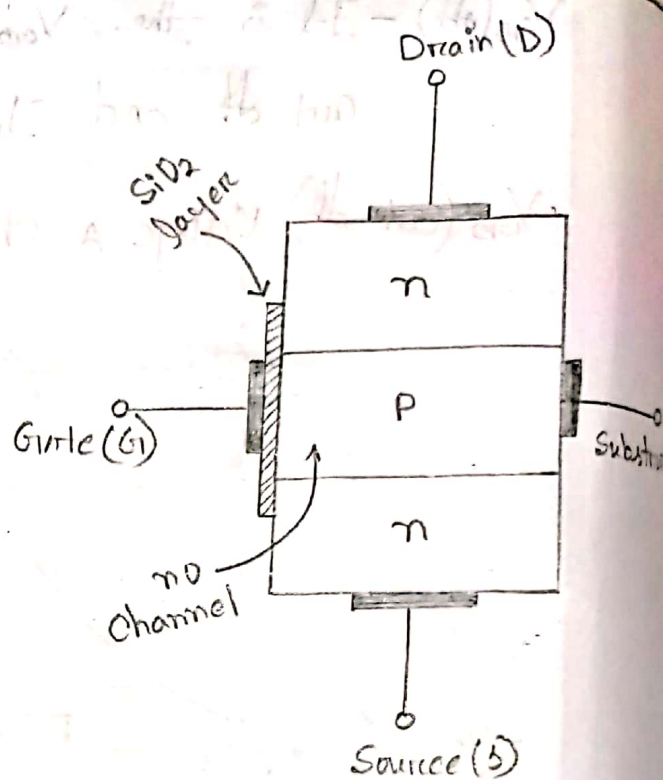
MOSFET: A field effect transistor that can be operated in enhancement mode is called MOSFET

Types

- Depletion-type MOSFET (D-MOSFET)  
Can be operated in both depletion & enhance mode
- Enhancement-type MOSFET (E-MOSFET)  
Can be operated in enhance mode.

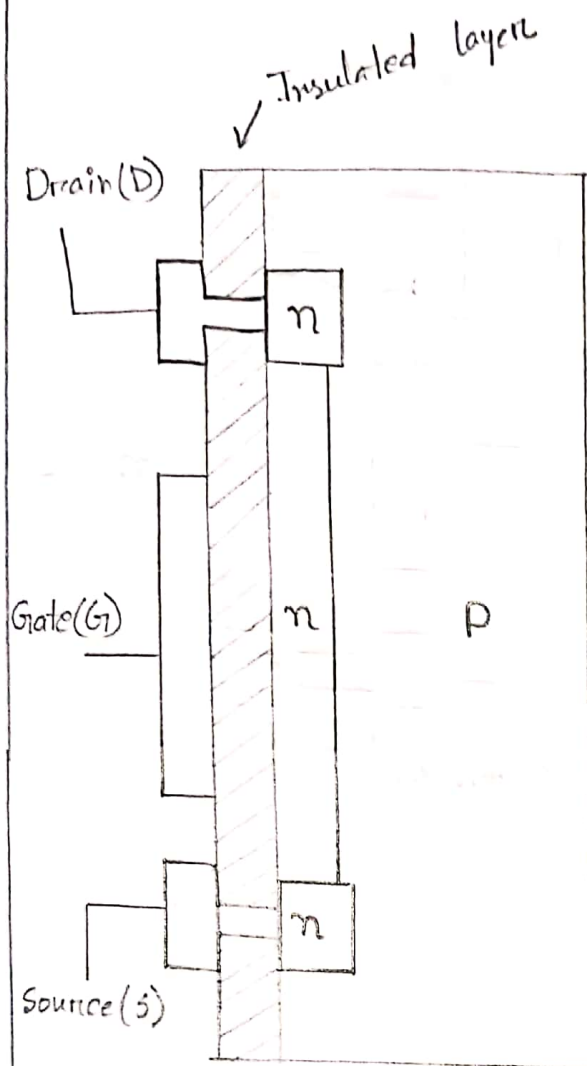


n-channel D-MOSFET

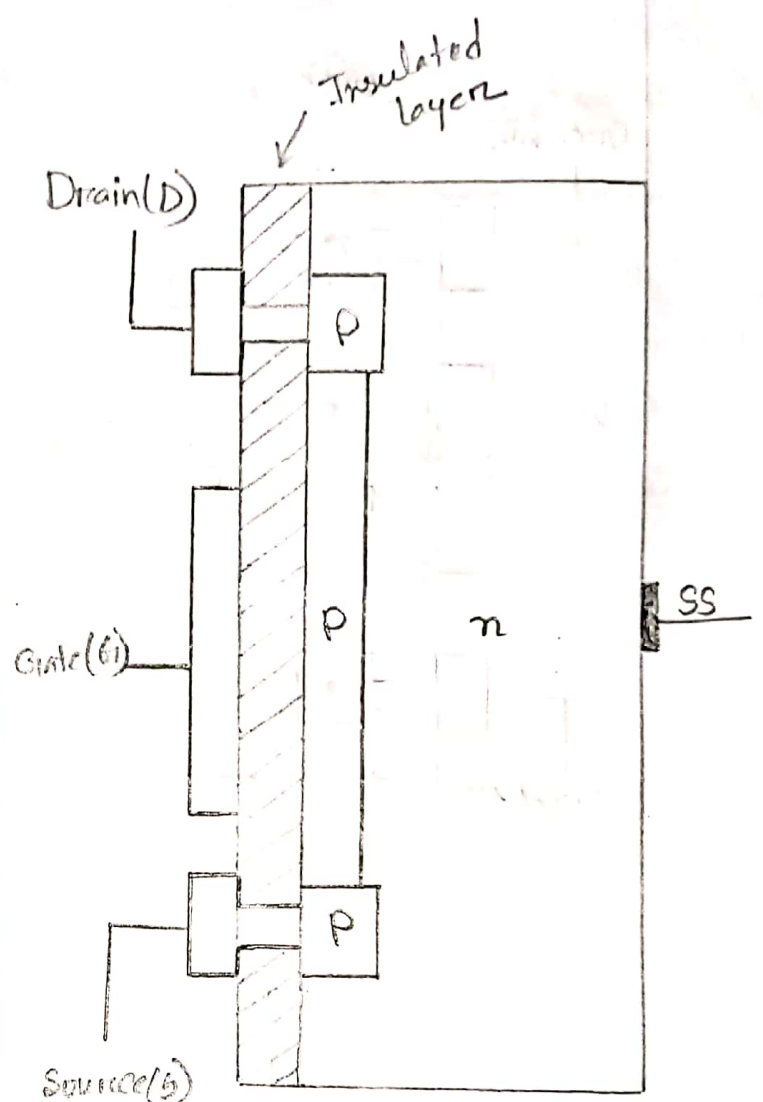
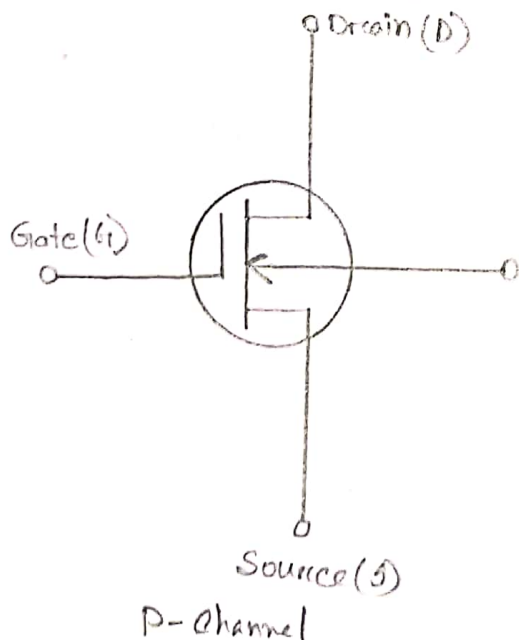


n-channel E-MOSFET

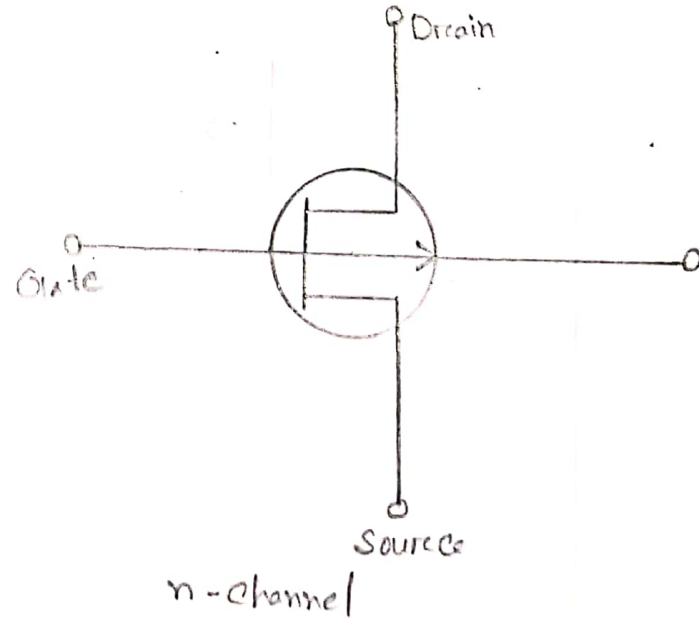
## Construction & Symbol (D-MOSFET)



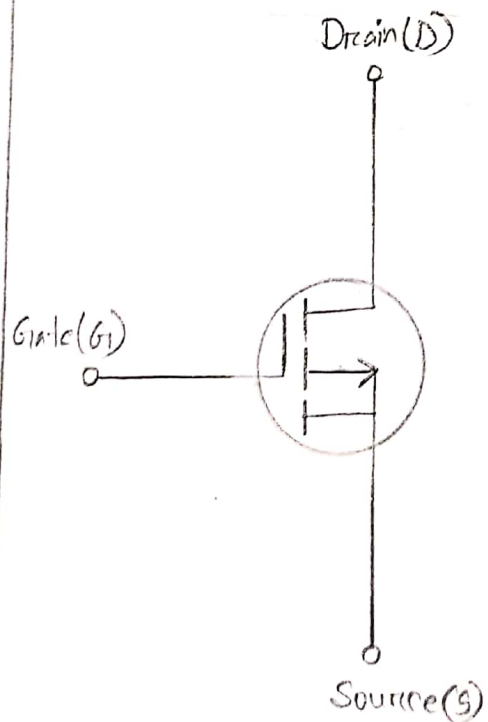
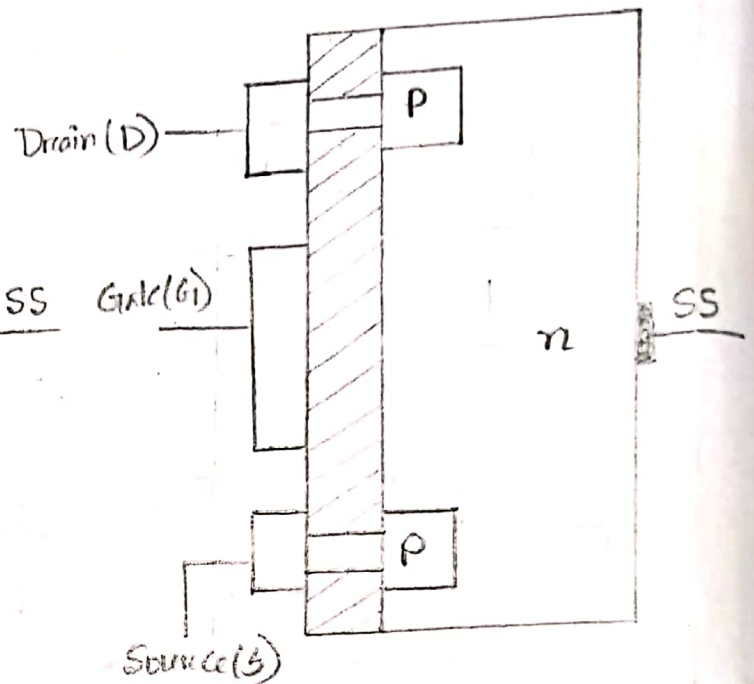
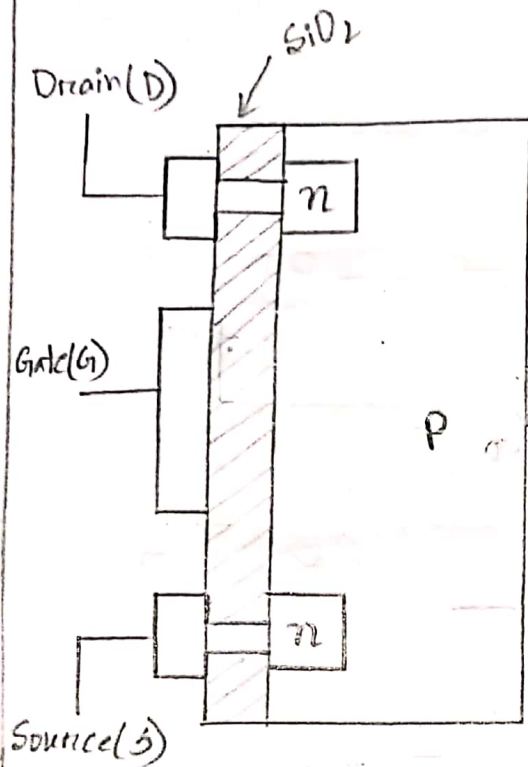
n-channel D-MOSFET



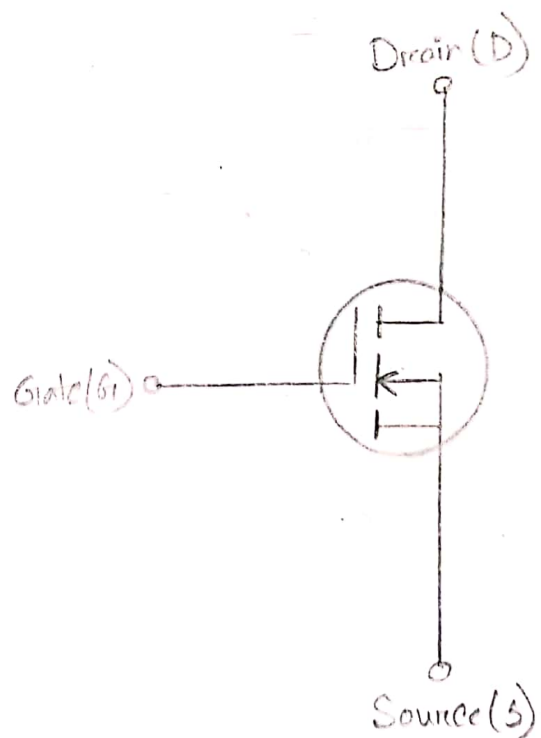
P-channel D-MOSFET



## Construction & Symbol (E-MOSFET)



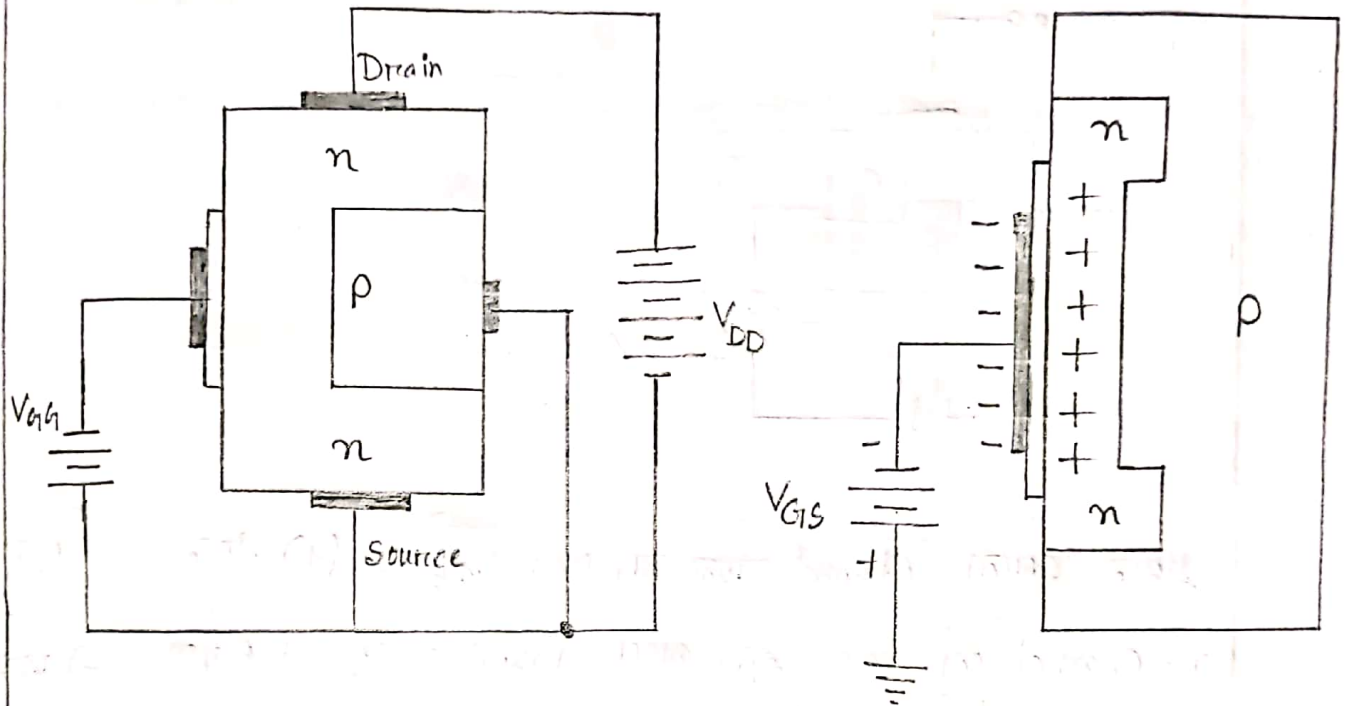
P-channel



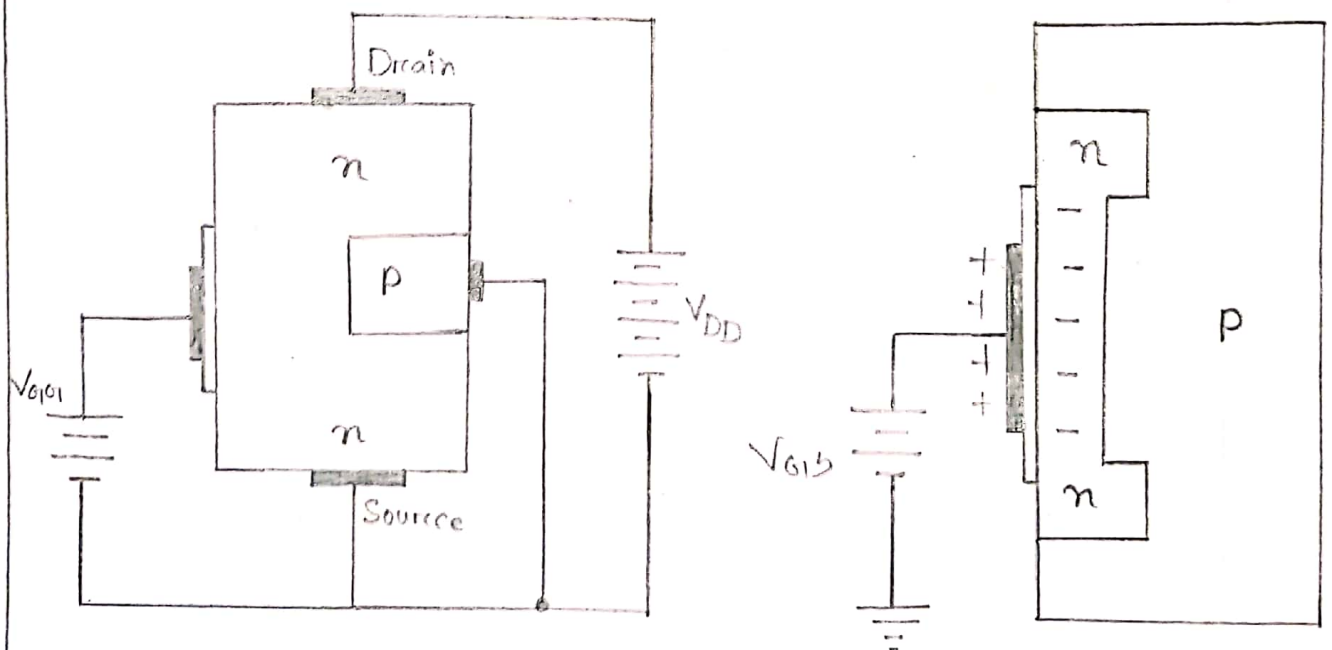
n-channel

## Circuit Operation (D-MOSFET)

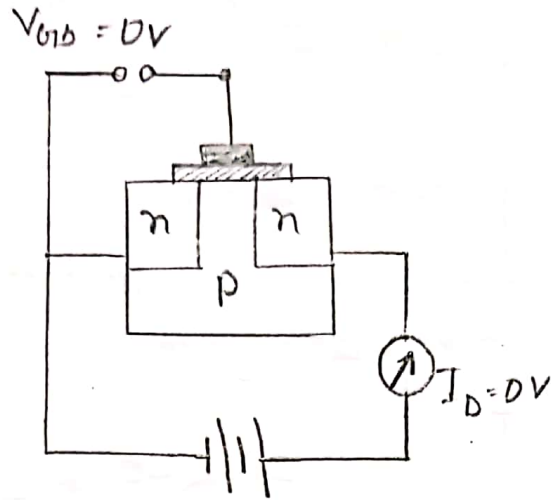
(i) Depletion Mode:  $V_{GS}$  शक  $(-)$  शक  $n$ -channel कककक,



(ii) Enhancement Mode:  $V_{GS}(+)$  शक  $n$ -channel कककक,



## Circuit Operation (E-MOSFET)



প্রথম কোনো channel ছিল না, পরে  $V_{GS}$  এ (+) প্রান্ত লাগিয়ে  
 n-channel তৈরি করা হয়, কারণ Positive প্রান্ত বিদ্যমান (-) প্রান্ত  
 n-channel তৈরি হয়।