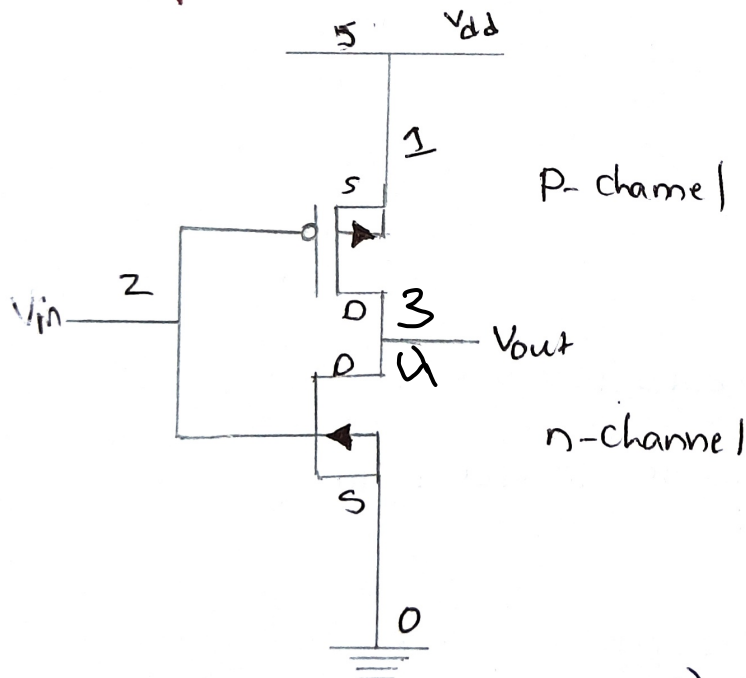EXP No 5:- Simulation of CMos Inverter Scoitching Characteristics in winspice

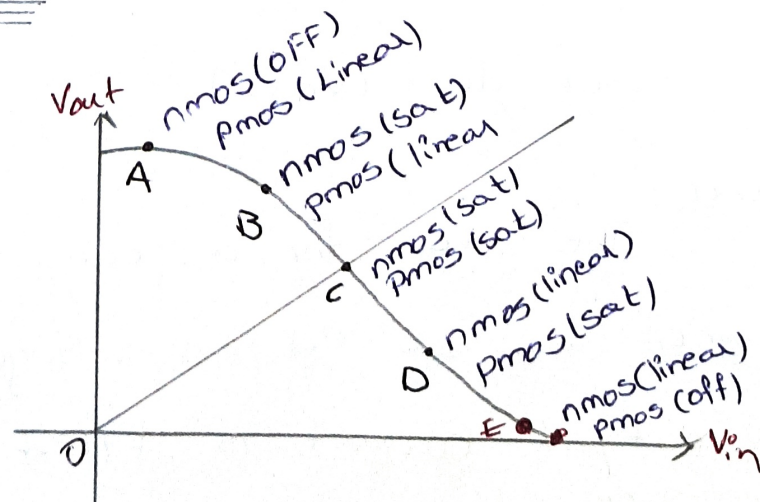| Name: Balabhadruni Sumanth	Date: 16/07/21
RollNo: CB.EN U4ECE18211	Marks: out of 15

Aim:→

obtain the voltage transfer characteristics for a cmos inverter and also plot the output current using winspice.

Circuit Diagram:→

CMOS Inverter:-

CODE:-

VTC:-

```
*VTC graph FOR CMOS Inverter
Vg 2 0 DC 2V
Vdd 1 0 DC 5V
mp 3 2 1 modp    W=5U L=1U
mn 3 2 0 0  modn  W=2U L=1U
.dc Vg 0 5 0.01
.plot dc V(3) {V(2)
```

output Current.

```
*Inverter char
Vdd 1 0 dc 5
Vin 2 0 dc 0
mp 3 2 1 1 modp W= 10u  1=1u
mn 4 2 0 0 modn  W=4u 1=1u
Vdum 3 4 0
.dc Vin 0 5 0.01
.plot dc i (Vdum)
```
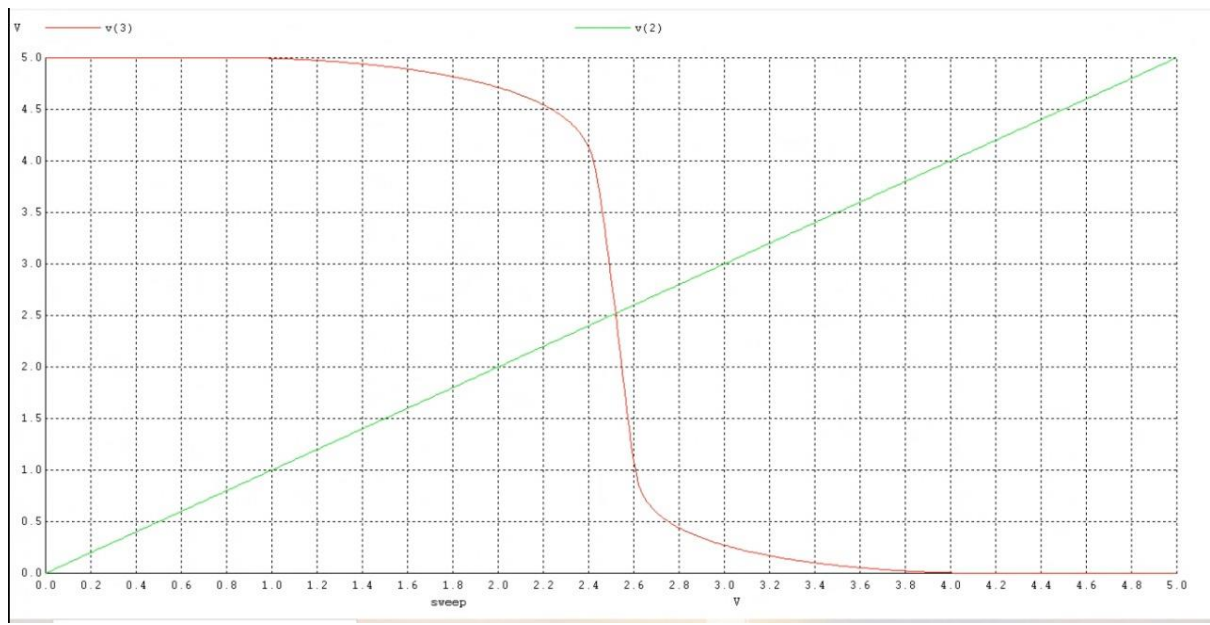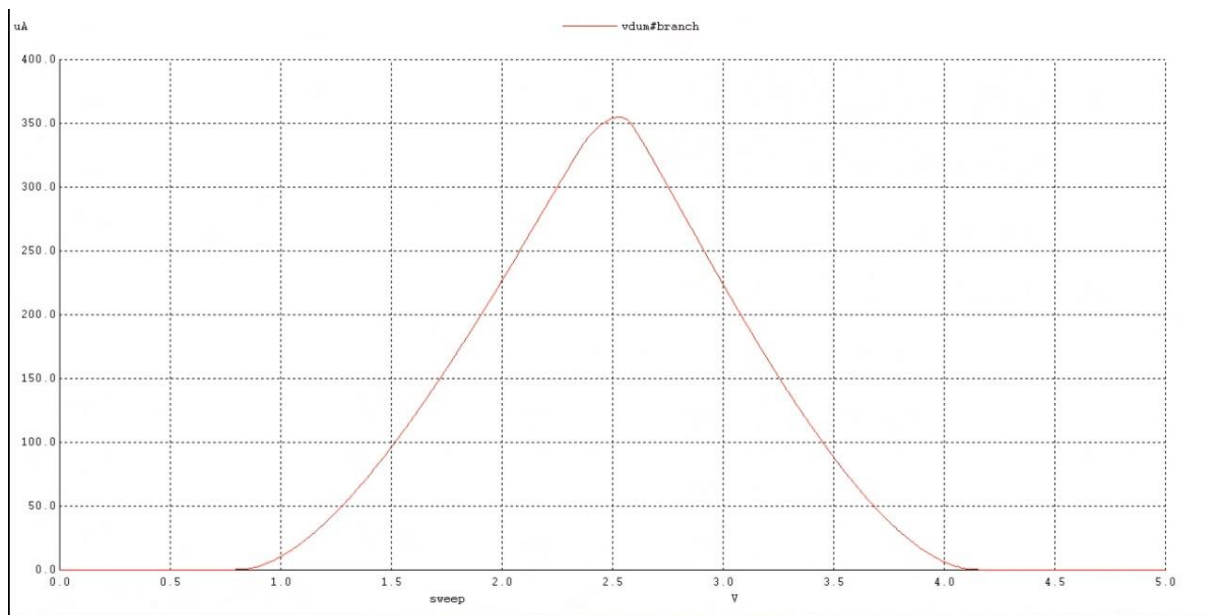
VTC GRAPH:

CURRENT GRAPH:

Inference:-

The VTC for a cmos inverter was obtained and the mid point voltage is 2.5V and the output current is plotted and verified using win spice