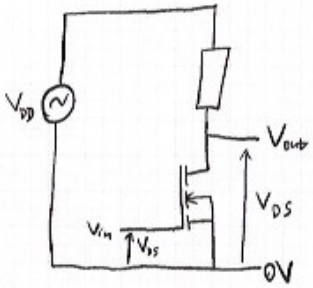
NEELU SARASWATI BHATLA (SRNS2)

1.

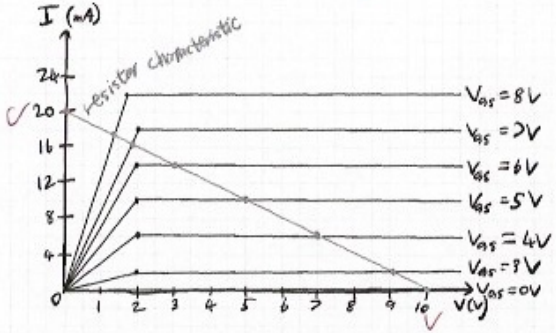


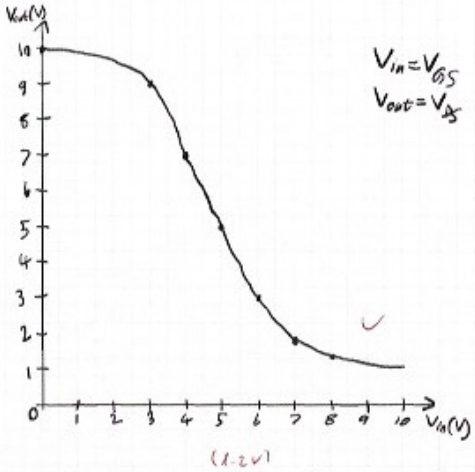
D, G, S ?

2. $V_{DD} = 10V$, $R = 500\Omega$

When $V_{DS} = 0V$, $V_R = 10V$, $I_R = \frac{10}{500} = 0.02A = 20mA$

When $V_{DS} = 10V$, $V_R = 0V$, $I_R = \frac{0}{500} = 0mA$





(1.2V)

3. When $V_{in} = 8V$, $V_{out} \approx 1.5V$, so $V_R \approx 9.5V$

$P_R = \frac{V_R^2}{R} = \frac{9.5^2}{500} = 0.18W$ 0.155W @ V = 1.2V

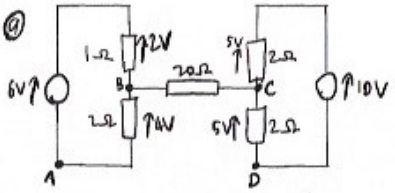
4. (a) $R_T = 1\Omega + 2\Omega = 3\Omega$

$V = \frac{1}{3} \times 6 = 2V$

(b) $V_1 = 6 - 2 = 4V$

(c) $P = \frac{V^2}{R} = \frac{16}{4} = 4W$

5. (a)



$V_B = 4V$ and $V_C = 5V$

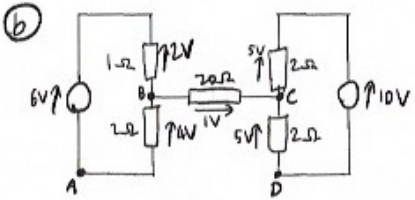
$\therefore$ V across 20Ω resistor = 5 − V = 1V

$\therefore$ I through 20Ω resistor = $\frac{V}{R} = \frac{1}{20} = 0.05A$

no current

0A

(b)



$V_{AB} = 4V$ V

$V_{AC} = 1 + 4 = 5V$

$V_{AD} = -5 + 1 + 4 = 0V$

$V_{AC} = 4V$

$V_{DC} = 5V$

$V_{AD} = -1V$