1.11

a. 断开二极管选择B为零势能点

D左侧电势 -15V. 右侧 -12V. $U_P < U_N$ 截止

b. 断开二极管选择B为零势能点

D左侧电势 15V 右侧 10V $U_P > U_N$ 导通

c. 断开 D_1、D_2 以B为零势能点

$U_{D_1左} = 0$ $U_{D_1右} = -10V$ D_1 导通

$U_{D_2左} = -15V$ $U_{D_2右} = -10V$ D_2 截止 $U_{AB} = -10V$

d. 断开 D_1、D_2 以B为零势能点

$U_{D_1左} = 0$ $U_{D_1右} = 10V$

$U_{D_2左} = -15V$ $U_{D_2右} = 10V$ D_2 压差大、且 $U_{D_2P} > U_{D_2N}$ 导通

$\therefore U_{AB} = -15V$

1.15.

(a). $U_I \cdot \frac{R_L}{R_L + R} = 10V > 8V$. 稳压管处于反偏且击穿而未损坏.

$\therefore U_O = 8V$ $I_O = \frac{U_O}{R_L} = 4mA$ $I_1 = \frac{U_I - U_O}{R} = 6mA$

$\therefore I_Z = 2mA$

(b) $U_I \cdot \frac{R_L}{R_L + R} = 7.5V < 8V$. 稳压管未被击穿

$\therefore U_O = 7.5V$ $I_O = \frac{U_O}{R_L} = 3.75mA$ $I_1 = \frac{U_I - U_O}{R} = 3.75mA$

$\therefore I_Z = 0$