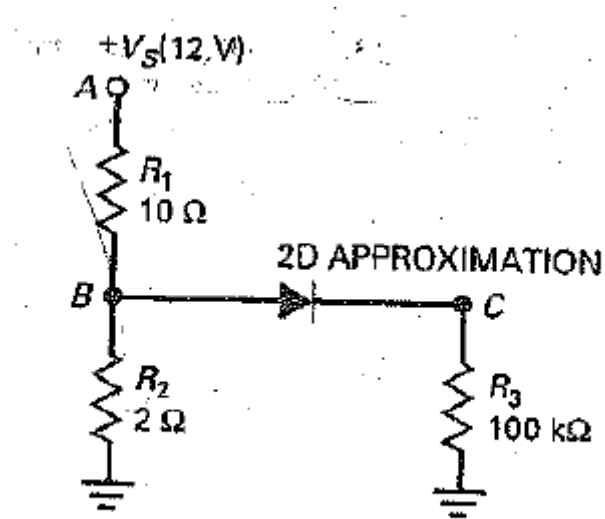For each independent variable increase, determine what will be response of the dependent variables for the following circuit. Use 2nd approximation for diode.

+V_s(12 V)

A

R_1
10 Ω

2D APPROXIMATION

B

C

R_2
2 Ω

R_3
100 kΩ

Independent variables: Vs, R1, R2, R3, Vk

Dependent variables: Va, Vb, Vc, I1, I2, I3, P1, P2, P3.

Also calculate values of all the dependent variables for a 10% increase in all the independent variables.