



$$i = (V_o - V_e) s C n \quad \text{eq.1}$$

$$V_e = \frac{(gm.V_{in} - i)}{sCc} \quad \text{eq.2}$$

$$V_o = A.V_e \quad \text{eq.3}$$

$$sC_c.V_e = g_m.V_{in} - V_o.sC_n + V_e.sC_n$$

$$V_{e.s}(C_c - C_n) = g_m V_{in} - V_{o.s} C_n$$

$$V_o \left[s \frac{(C_c - C_n)}{A} + sC_n \right] = g_m V_{in}$$

$$\frac{V_o}{V_{in}} = \frac{gm}{s \left[\frac{C_c}{A} - \frac{C_n}{A} + C_n \right]} \quad \text{eq.4}$$