5. An amplifier in Fig. 5 with an input resistance R_i=3kΩ, when driven by a current source i_s=1mA and a source resistance R_s=15kΩ, has a short-circuit output current of 2mA and an open-circuit output voltage of 10V. If the amplifier is used to drive a 5kΩ load R_L, find the values of the

(a) A = ? (4%)

(b) voltage gain v_o / v_i (4%)

(b) current gain i_o / i_i (4%)

(c) overall current gain i_o / i_s (4%)

(d) power gain (P_o/P_i). (4%)

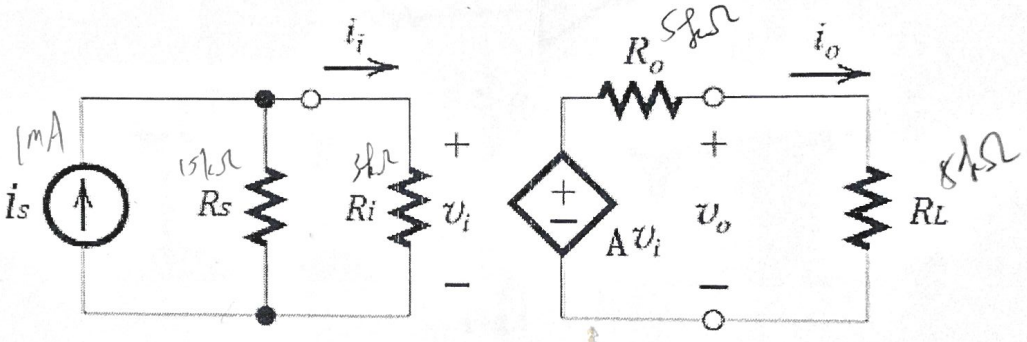

Fig. 5

$R_o = \frac{10}{2m} = 5k\Omega$

$V_o =$