DELD Practical 10

(A) Calculation For Input Impedence [U19CS012]

Input Impedence = $R_i = \frac{\Delta V_{BE}}{\Delta I_B}$ [Vcc is constant]

$= \frac{(6.87 - 6.56)}{(23.1 - 8.4)} \times 10^5$

$= \frac{0.31}{14.7} \times 10^5$

$= \boxed{2.108\ k\Omega}$

$\therefore$ Reverse Voltage Gain = $\frac{\Delta V_{EB}}{\Delta V_{CE}} = \frac{-(6.9 - 7.98)}{3} \times 10^{-1} = 0.36 \times 10^{-1}$

$= \boxed{3.6 \times 10^{-2}}$

(B) Calculation For Output Impedence [U19CS012]

Output Admittance = $\frac{1}{h_{oe}} = (R_o)^{-1} = \frac{\Delta I_C}{\Delta V_{CE}} = \frac{(5.895 - 4.8)}{(1.1 - 0.15)} \times 10^{-3}$

$= \frac{1.095}{0.95} \times 10^{-3}$

$= \boxed{1.1 \times 10^{-3}\ \text{siemens}}$

Forward Current Gain = $\frac{\Delta I_C}{\Delta I_B} = \frac{(5.895 - 2.105)}{40} \times 10^3$

$= \boxed{94.78}$