energy?

7.15 Draw the effective equivalent circuit of the circuit shown in Fig 7.1, at very high frequencies and find the effective impedance.

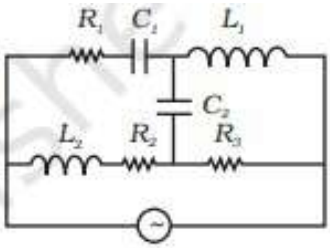


Fig. 7.1

7.16 Study the circuits (a) and (b) shown in Fig 7.2 and answer the following questions.

R R C L

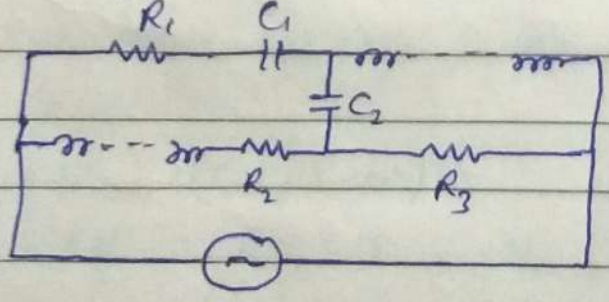
15. $X_C = \frac{1}{\omega C} = \frac{1}{(2\pi\nu)C} \Rightarrow X_C \propto \frac{1}{\nu}$

$X_L = \omega L = (2\pi\nu)C \Rightarrow X_L \propto \nu$

As frequency is very high ;

So, $X_C \approx 0$ (Short circuited) and X_L becomes too high (Open circuit)

Hence, equivalent circuit is :-



$(X_{C_1} = X_{C_2} \approx 0)$

Hence, total impedance $\Rightarrow \boxed{Z = R_1 + R_3}$