7.5 Which of the following combinations should be selected for better tuning of an *LCR* circuit used for communication?

(a) $R = 20\ \Omega$, $L = 1.5$ H, $C = 35\mu$F.
(b) $R = 25\ \Omega$, $L = 2.5$ H, $C = 45\mu$F.
(c) $R = 15\ \Omega$, $L = 3.5$ H, $C = 30\mu$F.
(d) $R = 25\ \Omega$, $L = 1.5$ H, $C = 45\mu$F.

5. For better tuning of LCR circuit, Quality factor must be high.

$$Q = \frac{1}{R}\sqrt{\frac{L}{C}}$$

On checking the above options by putting given values;
Option (c) (i.e. $R = 15\,\Omega$, $L = 3.5H$, $C = 30\mu F$) given the maximum value of Q.

$\Rightarrow$ Option (c) is the answer.