Transmissibility \( TR \), which is the ratio of the maximum transmitted force to the maximum impressed force, takes the form

\[
TR = \frac{\sqrt{1 + (2 \xi \beta)^2}}{\sqrt{(1-\beta^2)^2 + (2 \xi \beta)^2}}
\]

If 10\% of the excitation force is to be transmitted to the foundation

\[
TR = 0.1 = \frac{\sqrt{1 + (2 \xi \beta)^2}}{\sqrt{(1-\beta^2)^2 + (2 \xi \beta)^2}}
\]

Since \( \xi = 0.2 \), substitute \( \xi = 0.2 \) into the last eqn.

\[
\frac{1 + (0.4 \beta)^2}{(1-\beta^2)^2 + (0.4 \beta)^2} = 0.01
\]

or

\[
\beta^4 - 17.84 \beta^2 - 99 = 0
\]

Solving for \( \beta^2 \), we get

\[
\beta^2 = 22.28 \text{ or } -4.443
\]

Since \( \beta > 0 \), we have \( \beta^2 = 22.28 \rightarrow \beta = 4.72 \)