On oscillation of general two terms differential equations with alternating potential on $(0, \infty)$

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The work is devoted to the study of oscillation and non-oscillation of two terms linear differential equations of the following form

$$l[y] \equiv (-1)^n \left(\rho(x) y^{(n)}\right)^{(n)} + q(x)y = 0, \tag{1}$$

where $\rho(\cdot) > 0$, $q(\cdot)$ are continuous functions in $I = (0, \infty)$, яnd $q(x)$ is a function, which changes sign on each interval (x, ∞), $x > 0$.

We introduce two weighted modification of Otelbayev's function and in terms of this function we obtain conditions of oscillation and of non-oscillation of differential equation (1).