

GATE AE 2023

EE:1205 (*SignalsSystems*)

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Question

Consider the differential equation

$$x^2 \frac{d^2y}{dx^2} + 4x \frac{dy}{dx} + 2y = 0 \quad \text{for } x \geq 1$$

with initial conditions $y = 0$ and $\frac{dy}{dx} = 1$ at $x = 1$. The value of y at $x = 2$ is ?

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