

Tuning Test Item Bank
Mechanical Engineering

Select from the following the correct derivative of the function $f(x)$.

$$f(x) = \frac{x^2 e^x}{\cos x}$$

A $\frac{d}{dx} f(x) = -\frac{x(x+2)e^x}{\sin x}$

B $\frac{d}{dx} f(x) = \frac{x(x+2)e^x}{\sin x}$

C $\frac{d}{dx} f(x) = \frac{x e^x [(x+2) \cos x - x \sin x]}{\cos^2 x}$

D $\frac{d}{dx} f(x) = \frac{x e^x [(x+2) \cos x + x \sin x]}{\cos^2 x}$

(Mathematics 3)

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Correct Answer D.