## Past Year JEE Questions

### Questions

#### Quetion: 01

If $g$ is the inverse of a function $f$ and $f'(x) = \frac{1}{1+x^5}$, then $g'(x)$ is equal to:

A. $\frac{1}{1+\{g(x)\}^5}$

B. $1 + \{g(x)\}^5$

C. $1 + x^5$

D. $5x^4$

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### Solutions

#### Solution: 01

### Explanation

Since $f(x)$ and $g(x)$ are inverse of each other

$\therefore g'(f(x)) = \frac{1}{f'(x)}$

$\Rightarrow g'(f(x)) = 1 + x^5$

$\left( \text{As } f'(x) = \frac{1}{1+x^5} \right)$

Here $x = g(y)$

$\therefore g'(y) = 1 + \{g(y)\}$

$\Rightarrow g'(x) = 1 + \{g(x)\}$