

2 Trigonometric functions $\frac{d \sin x}{dx}$, $\frac{d \cos x}{dx}$, $\frac{d \tan x}{dx}$

Marks

1. Differentiate this following with respect to x :

[5]

- A. $\cos 3x$
- B. $\sin 2x$
- C. $\tan (3x + 1)$
- D. $4 \cos (5x - 3) + \sin 8x$
- E. $x \sin (2x + 3)$
- F. $3 \cos^3 5x$
- G. $\frac{1}{\tan 7x}$
- H. $\csc (3x - 2)$
- I. $\tan x + \cot x$
- J. $\frac{\sin 3x}{5}$



2. If $y = 2 \sin 3x - 5 \cos 3x$, show that $\frac{d^2 y}{dx^2} = -9y$

[4]