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MHT CET 2024 Question Paper

May 3 Shift 2

Ques 1. If y = sec(tan^{-1}x) then dy/dx at x = 1

A. ½
B. 1
C. 1/√2
D. √2

Ans. C

Ques 2. If y = log[e^{3x} ((x - 4)/(x + 3))$^{3/2}$] then find dy/dx

Ans. 3+ 21/{2(x-4)(x+3) }

Ques 3. Find the differential equation of the family of all circles, whose center lies on the x-axis and touches the y-axis at the origin.

Ans. 2xy dy/dx = y^2-x^2

Ques 4. If f(x) = 3x + 6, g(x) = 4x + k and fog(x) = gof(x) then k = ?

Ans. k = 9

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