ECAT Mathematics Chapter 18 Basic Concepts & Definitions

Sr	Questions	Answers Choice
1	If $f(x) = x^{2/3}$ then $f^1(x)$ at x = 8 equals:	A. 8 B. 1/8 C. 1/3 D. 2/3
2	Question Image	A. x²+ 2 B. 3x + 2 C. 3x²+ 5 D. 3x²+ 2
3	Question Image	
4	if $y=x^2$ then dy/dx equals:	A. 2x B. x/2 C. 2x³ D. x³/2
5	Question Image	
6	If $y = 1/x^2$ then dy/dx equals:	A. -2x B. x⁻³ C. -2/x³ D. -2x³
7	Differentiation of sin x w.r.t. cot x is:	A. -sin² x sec x B. -cos x sin² x C. -cos² x tan x D. -sin² x
8	d/dx (cos x^2) =	A. -2x cos x B. -2x sin x² C. -2x tan x D. -2x sec² x
9	If $y=x^m$ then dy/dx equals:	A. mx B. x/m C. mx^{m-1} D. xm^{m-1}
10	d/dx [$\tan^2$ x]	A. 2tan x sec² x B. 2tan x sec x C. 2 cot x tan x D. 2sec² x cos² x
11	Question Image	
12	Question Image	A. 0 B. 8 C. 5 D. 9
13	If f(x) = c then $f^1(x)$ equals:	A. 1 B. 0 C. cx D. c
14	If $f(x) = x^{-100}$ the value of f^1 (1) is:	A. 100 B. -100 C. 0 D. -101
15	If $y = (7x + 9)^2$, then dy/dx equals:	A. 98x +126 B. 14x C. 14x +18 D. 14x+81
16	$f(x) = ax^2$-3x -5, and f^1 (2) = 9, a is equal to	A. 2 B. 3 C. -2 D. 4
17	Question Image	

18	Question Image	A. 2x B. x/2 C. 2x³ D. x³/2
19	d/dx (cosec x)	A. -sec x tan x B. sin x cos x C. -csc x cot x D. 2sin x cos x
20	If y = 3 x + 2cos x, then dy/dx =	A. 3-2 sin x B. 3-t sin x C. 3x² - 2sin x D. 3(1-4 sin x)