ECAT Mathematics Chapter 18 Basic Concepts & Definitions

Sr	Questions	Answers Choice
1	Question Image	A. 2x B. x/2 C. 2x³ D. x³/2
2	The derivative of $1/x^m$ is:	A. x^{m+1}/ m B. m(x)^{m-1} C. (m-1) x^{-m} D. m/x^{m+1}
3	Question Image	A. 8 B. 1/8 C. 1/3 D. 2/3
4	If $x = 1 - t^2$ and $y = 3t^2 - 2t^3$ then dy/dx =	A. (1-t) B. 3(1+t) C. 3(t-1) D. 3/1-t
5	If $x = at^2$ and y = 2at then dy/dx =	A. 2a/y B. y/2a C. -a/2y D. -2y/a
6	If $y = (7x + 9)^2$, then dy/dx equals:	A. 98x +126 B. 14x C. 14x +18 D. 14x+81
7	Question Image	
8	Question Image	
9	$d/dx(x^3 + 2x + 3) =$	A. x²+ 2 B. 3x + 2 C. 3x²+ 5 D. 3x2 + 2
10	$f(x) = ax^2 - 3x - 5$, and $f^1(2) = 9$, a is equal to	A. 2 B. 3 C. -2 D. 4
11	Question Image	
12	If $y = x^n$ then dy/dx equals:	A. nx B. xⁿ⁻¹ C. nxⁿ⁻¹ D. n
13	Question Image	
14	Question Image	
15	$d/dx [\tan^2 x]$	A. 2tan x sec² x B. 2tan x sec x C. 2 cot x tan x D. 2sec² x cos² x
16	If $y = 1/x^2$ then dy/dx equals:	A. -2x B. x⁻³ C. -2/x³ D. -2x³
17	if $x \in D_f$ and $f^1(x)$ exists, then f is said to be	A. zero at x B. Differentiable at x C. Continuous at x D. None of these
18	Question Image	
	Let f be real valued function continuous in the interval $(x, x_1) \subseteq D_f$ (the domain of f)	A. Instantaneous rate

19	Let f be real valued function continuous in the interval $(x,x_1) \subseteq D_f$ (the domain of f), then $f(x_1) - f(x)/x_1 - x$ represents:	B. Average rate of change C. Differential coefficient D. None of these
20	Question Image	